

## THURSDAY POSTERS

## BIOINFORMATICS, 001 - 032

- ThP 001 **Peptide Identification from Mixture Tandem Mass Spectra**; Jian Wang<sup>1</sup>; Josue Perez<sup>1</sup>; Ronald Luethy<sup>2</sup>; Parag Mallick<sup>2</sup>; Nuno Bandeira<sup>3</sup>; <sup>1</sup>Bioinformatics Program, UCSD, San Diego, CA; <sup>2</sup>Dept. of Chemistry and Biochemistry, UCLA, Los Angeles, CA; <sup>3</sup>Center for Computational Mass Spectrometry, UCSD, San Diego, CA
- ThP 002 **RAld\_deNovo: Using de novo Statistics to Combine Search Results from Multiple Scoring Functions and More**; Gelio Alves; Aleksey Ogurtsov; Yi-kuo Yu; National Center for Biotechnology Information, NLM, Bethesda, MD
- ThP 003 **Automated Multiple Round Searches to Increase Coverage of Peptide/Protein Identification**; Baozhen Shan<sup>1</sup>; Lei Xin<sup>2</sup>; Weijie Yang<sup>1</sup>; Gilles Lajoie<sup>2</sup>; Bin Ma<sup>3</sup>; <sup>1</sup>Bioinformatics Solutions Inc., Waterloo, Canada; <sup>2</sup>University of Western Ontario, London, ON; <sup>3</sup>University of Waterloo, Waterloo, ON
- ThP 004 **HyPep: A New Strategy to Accelerate Peptide Discovery with a Combination of de novo Sequencing and Homology Database Search**; Weifeng Cao<sup>1</sup>; Mingming Ma<sup>2</sup>; Qiang Fu<sup>3</sup>; Lingjun Li<sup>4</sup>; <sup>1</sup>University of Wisconsin-Madison, Madison, WI; <sup>2</sup>University of Wisconsin-Madison, Madison, WI; <sup>3</sup>Schering Plough, North Plainfield, NJ; <sup>4</sup>University of Wisconsin, Madison, WI
- ThP 005 **Beyond Edman Degradation: Automated de novo Protein Sequencing of Modified Monoclonal Antibodies**; Nuno Bandeira<sup>1</sup>; Victoria Pham<sup>2</sup>; David Arnott<sup>2</sup>; Jennie Lill<sup>2</sup>; Pavel Pevzner<sup>2</sup>; <sup>1</sup>Center for Computational Mass Spectrometry, UCSD, La Jolla, CA; <sup>2</sup>Genentech Inc, South San Francisco, CA; <sup>3</sup>University of California, San Diego, La Jolla, CA
- ThP 006 **PepNovo+: Extending the Performance Envelope of de novo Sequencing**; Ari Frank; Pavel Pevzner; UCSD, La Jolla, CA
- ThP 007 **Lipid Analytical Tool (LipidAT): Automated Analysis of Lipidomic Mass Spectrometry Data**; Jun Ma; Haixu Tang; Indiana University, Bloomington, IN
- ThP 008 **LipidDiff: A Tool for High-Throughput Glycerophospholipid Profiling and Quantitative Difference Testing via Direct Infusion Electrospray Ionization Mass Spectrometry**; Peter S. Straub; Eric I. Purser; David L. Tabb; Vanderbilt University, Nashville, TN
- ThP 009 **ICC-CLASS: Isotopically-Coded Cleavable Cross-Linking Analysis Software Suite**; Evgeniy Petrotchenko; Christoph Borchers; UVic-GBC Proteomics Centre, Victoria, Canada
- ThP 010 **A Database Search Algorithm for Identification of Intact Cross links in Proteins and Peptides Using Tandem Mass Spectrometry**; Hua Xu<sup>1</sup>; Pang-hung Hsu<sup>2</sup>; Liwen Zhang<sup>3</sup>; Michael A. Freitas<sup>3</sup>; <sup>1</sup>University of Illinois at Chicago, Chicago, IL; <sup>2</sup>The Genomics Research Center, Academia Sinica, Taipei, Taiwan; <sup>3</sup>Ohio State University, Columbus, OH
- ThP 011 **Spectral Clustering for Comprehensive PTM Discovery and Targeted Quantitative Proteomics Analysis of Human Lens Proteins**; Jayson A. Falkner<sup>1</sup>; Phillip Wilmarth<sup>2</sup>; Jarret Falkner<sup>1</sup>; Larry David<sup>2</sup>; <sup>1</sup>Single Organism Software, Beaverton, OR; <sup>2</sup>BMB, OHSU, Portland, OR
- ThP 012 **Correlation of MS2 and MS3 Pairs for Phosphoprotein Identification**; Bret Cooper; USDA-ARS, Beltsville, MD
- ThP 013 **Sequencing of Cyclic Non-Ribosomal Peptides Using High Accuracy Mass Spectrometry Data**; Julio Ng<sup>1</sup>; Nuno Bandeira<sup>1</sup>; Wei-ting Liu<sup>1</sup>; Roger Linington<sup>2</sup>; Pieter Dorrestein<sup>3</sup>; Pavel Pevzner<sup>1</sup>; <sup>1</sup>University of California, San Diego, La Jolla, CA; <sup>2</sup>University of California, Santa Cruz, Santa Cruz, CA; <sup>3</sup>University of California, San Diego, Skaggs School, La Jolla, CA
- ThP 014 **BUPIID-Top-Down: Database Search and Assignment of Top-Down MS/MS Data**; Weiwei Tong; Roger Theberge; Giuseppe Infusini; Weidong Cui; David H. Perlman; Cheng Lin; Mark E. McComb; Catherine E. Costello; Boston University School of Medicine, Boston, MA
- ThP 015 **Fast Unrestrictive Identification of Multiply-Modified Peptides**; Seungjin Na<sup>1</sup>; Nuno Bandeira<sup>2</sup>; Eunok Paek<sup>1</sup>; <sup>1</sup>Univ. of Seoul, Seoul, South Korea; <sup>2</sup>Center for Computational Mass Spectrometry, UCSD, La Jolla, CA
- ThP 016 **HeXicon++: Automating HDX Data Analysis**; Xinghua Lou<sup>1</sup>; Bernhard Y. Renard<sup>1</sup>; Marc Kirchner<sup>2</sup>; Ullrich Koethe<sup>1</sup>; Christian Graf<sup>3</sup>; Judith A.J. Steen<sup>2</sup>; Hanno Steen<sup>2</sup>; Matthias P. Mayer<sup>3</sup>; Fred Hamprecht<sup>1</sup>; <sup>1</sup>University of Heidelberg, Heidelberg, Germany; <sup>2</sup>Children's Hospital Boston / Harvard Medical, Boston, MA; <sup>3</sup>ZMBH, Heidelberg, Germany
- ThP 017 **HDX by nanoLC-MALDI: Software for Discovery of Protein-Wide Correlations between Peptide Deuterium Uptake Data and Structural or MD Simulation Parameters**; Vikram Bodicherla; Paul Gershon; UC-Irvine, Irvine, CA
- ThP 018 **Marimba: A Toolset for Automated Design of High-Throughput LC-MRM/MS Assays from Prior Shotgun Proteomics Analyses**; Angel D. Pizarro<sup>1</sup>; Sumit Shah<sup>1</sup>; Kenneth Yu<sup>1</sup>; Samuel I. Parry<sup>1</sup>; Garret A. FitzGerald<sup>2</sup>; Ian A. Blair<sup>2</sup>; <sup>1</sup>University of Pennsylvania, Philadelphia, PA; <sup>2</sup>Univ. of Penn/SOM/Pharmacol, Philadelphia, PA
- ThP 019 **Automated Creation and Refinement of Complex Scheduled SRM Methods for Targeted Proteomics**; Brendan Maclean<sup>1</sup>; Daniela Tomazela<sup>1</sup>; Amol Prakash<sup>2</sup>; Scott Peterman<sup>3</sup>; Michael J. Maccoss<sup>1</sup>; <sup>1</sup>University of Washington, Seattle, WA; <sup>2</sup>ThermoFisher Scientific, Cambridge, MA; <sup>3</sup>Thermo Electron, Somers, NJ
- ThP 020 **Statistical Analysis of Calibration Curves on Log-Log Scale from Multiple Reaction Monitoring Assays for Measuring Proteins Spiked into Human Plasma**; Steven J. Skates<sup>1</sup>; Terri Addona<sup>2</sup>; Susan E. Abbatiello<sup>2</sup>; Birgit Schilling<sup>3</sup>; D. R. Mani<sup>4</sup>; David M. Bunk<sup>5</sup>; Clifford H. Spiegelman<sup>6</sup>; Lisa Zimmerman<sup>7</sup>; Amy-Joan L. Ham<sup>8</sup>; Hasmik Keshishian<sup>4</sup>; Steven C. Hall<sup>9</sup>; Steven A. Carr<sup>2</sup>; CPTAC Network<sup>10</sup>; <sup>1</sup>Massachusetts General Hospital, Boston, MA; <sup>2</sup>Broad Institute, Cambridge, MA; <sup>3</sup>Buck Institute for Age Research, Novato, CA; <sup>4</sup>Broad Institute of MIT, Cambridge, MA; <sup>5</sup>National Institute of Standards and Technology, Gaithersburg, MD; <sup>6</sup>Texas A&M University, College Station, TX; <sup>7</sup>Vanderbilt University, Nashville, TN; <sup>8</sup>Vanderbilt University School of Medicine, Nashville, TN; <sup>9</sup>UCSF MS Core Facility, San Francisco, CA; <sup>10</sup>National Cancer Institute, Bethesda, MD
- ThP 021 **Database Searching of Combined ETD and CID Data Using Protein Prospector**; Peter R. Baker; Robert Chalkley; Aenoch Lynn; Shenheng Guan; A.L. Burlingame; University of California, San Francisco, CA

## THURSDAY POSTERS

- ThP 022 **Decreasing Database Search Times in ETD MS/MS Sequence Searching by Assignment of Parent Precursor Charge to MS/MS Spectra;** Viswanadham Sridhara; Lewis Y. Geer; Stephen H. Bryant; *NCBI/NLM/NIH, Bethesda, MD*
- ThP 023 **Charge Prediction Machine: A Tool for Inferring Precursor Charge States of Electron Transfer Dissociation Tandem Mass Spectra;** Paulo C Carvalho<sup>1,2</sup>; Daniel Cociorva<sup>1</sup>; Catherine C L Wong<sup>1</sup>; Maria da Gloria da C Carvalho<sup>2</sup>; Valmir C Barbosa<sup>2</sup>; John Yates<sup>1</sup>; <sup>1</sup>*The Scripps Research Institute, La Jolla, CA*; <sup>2</sup>*Federal University of Rio de Janeiro, Rio de Janeiro, Brazil*
- ThP 024 **Modeling ETD Fragmentation with Bayesian Network for Peptide Identification;** Xiaowen Liu<sup>1</sup>; Baozhen Shan<sup>2</sup>; Bin Ma<sup>1</sup>; <sup>1</sup>*University of Waterloo, Waterloo, Canada*; <sup>2</sup>*Bioinformatics Solutions Inc., Waterloo, ON*
- ThP 025 **Statistical Discovery and Applications of Fragmentation Patterns from Proteomics-Grade Electron Transfer Dissociation (ETD) Spectra;** Ruixiang Sun<sup>1,2</sup>; Meng-Qiu Dong<sup>3</sup>; Bing Yang<sup>3</sup>; Hao Chi<sup>1,2</sup>; Liyun Xiu<sup>1,2</sup>; You Li<sup>1,2</sup>; Wenping Wang<sup>1,2</sup>; Chao Liu<sup>1,2</sup>; Leheng Wang<sup>1,2</sup>; Yan Fu<sup>1,2</sup>; Si-Min He<sup>1,2</sup>; <sup>1</sup>*Institute of Computing Technology, CAS, Beijing, China*; <sup>2</sup>*Key Lab of Intelligent Information Processing, CAS, Beijing, China*; <sup>3</sup>*National Institute of Biological Sciences, Beijing, China*
- ThP 026 **Increasing Peptide Identifications Using Spectral Processing Prior to a Database Search;** David Good<sup>1</sup>; Craig Wenger<sup>2</sup>; Joshua J. Coon<sup>3</sup>; <sup>1</sup>*University of Wisconsin, Madison, WI*; <sup>2</sup>*University of Wisconsin, Madison, WI*; <sup>3</sup>*Univ of Wisconsin-Madison, Madison, WI*
- ThP 027 **MS-Based Proteomics of Oceanic Microbial Communities Using High-Performance Computing, Sequence Similarity, Peptide Coverage Mapping, and Confidence Metrics;** Angela D. Norbeck<sup>1</sup>; Christopher Oehmen<sup>1</sup>; Matthew E. Monroe<sup>1</sup>; Carrie D. Nicora<sup>1</sup>; Ashoka D. Polpitiya<sup>1</sup>; Heather Mottaz-Brewer<sup>1,4</sup>; Sarah Sowell<sup>3</sup>; Lea Constan<sup>2</sup>; Stephen Giovannoni<sup>3</sup>; Steven Hallam<sup>2</sup>; Lilijana Paša-Tolić<sup>1,4</sup>; Mary S. Lipton<sup>1</sup>; Richard D. Smith<sup>1</sup>; <sup>1</sup>*Pacific Northwest National Laboratory, Richland, WA*; <sup>2</sup>*University of British Columbia, Vancouver, Canada*; <sup>3</sup>*Oregon State University, Corvallis, OR*; <sup>4</sup>*Environmental and Molecular Sciences Laboratory, Richland, WA*
- ThP 028 **Quadrupole Time-of-Flight Mass Spectrometry to Characterize the Proteome of an Unsequenced Genome –*Mangifera indica*;** Pradip Kumar Acharya<sup>1</sup>; Keshava T.S. Prasad<sup>1</sup>; Harsh A Pawar<sup>1</sup>; Sameer Kumar<sup>1</sup>; Renu Goel<sup>1</sup>; Rajesh Raju<sup>1</sup>; Santosh Renuse<sup>1</sup>; H C Harsha<sup>1,2</sup>; Raghothama Chaerkady<sup>1,2</sup>; Akhilesh Pandey<sup>2</sup>; <sup>1</sup>*Institute of Bioinformatics, Bangalore, India*; <sup>2</sup>*Johns Hopkins University, Baltimore, MD*
- ThP 029 **Confident Identification of Single Amino Acid Polymorphisms by a Database-Searching Approach for Shotgun Proteomics;** Chongle Pan<sup>1</sup>; P. Douglas Hyatt<sup>1</sup>; Nathan C. Verberkmoes<sup>1</sup>; Jill F. Banfield<sup>2</sup>; Robert Hettich<sup>1</sup>; <sup>1</sup>*Oak Ridge National Laboratory, Oak Ridge, TN*; <sup>2</sup>*University of California, Berkeley, CA*
- ThP 030 **An Automated Method for Resolving Gene Sequencing Errors through Tandem Mass Spectrometry;** Robert M. Day<sup>1,2</sup>; Tamah Fridman<sup>1,2</sup>; Nathan C. Verberkmoes<sup>1</sup>; Loren Hauser<sup>1</sup>; Doug Hyatt<sup>1</sup>; Andrey Gorin<sup>1</sup>; <sup>1</sup>*Oak Ridge National Laboratory, Oak Ridge, TN*; <sup>2</sup>*Joint Institute for Computational Sciences, Oak Ridge, TN*
- ThP 031 **Investigating Amino Acid Polymorphisms in a Natural Viral-Microbial Community by Integrating High Mass Accuracy and *de novo* Search Algorithms;** Patricia Carey<sup>1</sup>; Chongle Pan<sup>1</sup>; Manesh Shah<sup>1</sup>; Robert Hettich<sup>1</sup>; Mya Breitbart<sup>2</sup>; Jillian Banfield<sup>3</sup>; Nathan C. Verberkmoes<sup>1</sup>; <sup>1</sup>*Oak Ridge National Lab, Oak Ridge, TN*; <sup>2</sup>*University of South Florida, St. Petersburg, FL*; <sup>3</sup>*University of California, Berkeley, Berkeley, CA*
- ThP 032 **Withdrawn**
- PROTEOMICS: BIOMARKER DISCOVERY, 033 - 064**
- ThP 033 **Effect of Preimplantation Factor (PIF)\* on Autoimmune Neuroinflammation (Multiple Sclerosis) Using Discovery Proteomics;** Ravi Amunugama<sup>1</sup>; Michael Ford<sup>1</sup>; Richard Jones<sup>1</sup>; Lola Weiss<sup>2</sup>; Reuven Or<sup>2</sup>; Sivakumar Ramu<sup>3,4</sup>; Zhanna Yachtin<sup>2</sup>; Eytan Barnea<sup>3,5</sup>; <sup>1</sup>*NextGen Sciences, Ann Arbor, MI*; <sup>2</sup>*Hebrew University, Jerusalem, Israel*; <sup>3</sup>*BioIncept LLC, Cherry Hill, NJ*; <sup>4</sup>*Cari Reproductive Institute, Chicago, IL*; <sup>5</sup>*Society for the Investigation of Early Pregnancy, Cherry Hill, NJ*
- ThP 034 **Classification of MALDI-TOF Profile Spectra of Spinal Cord Tissue from Control and ALS Patients;** Joshua L. Johnson<sup>1</sup>; Long Li<sup>1</sup>; Daryl A. Bosco<sup>2</sup>; Robert H. Brown Jr<sup>2</sup>; Pengyu Hong<sup>1</sup>; Jeffrey N. Agar<sup>1</sup>; <sup>1</sup>*Brandeis University, Waltham, MA*; <sup>2</sup>*University of Massachusetts Medical School, Worcester, MA*
- ThP 035 **Using Cell Fractionation and Metabolic Labeling to Identify Serum Biomarkers of Liver Damage;** Julie A Weisz<sup>1</sup>; Hidekazu Tsukamoto<sup>2</sup>; Christine C Wu<sup>3</sup>; <sup>1</sup>*University of Colorado School of Medicine, Aurora, CO*; <sup>2</sup>*UCLA, Los Angeles, CA*; <sup>3</sup>*University of Colorado, Aurora, CO*
- ThP 036 **Identification of Brugia Worm Proteins by Life Cycle Stage;** Tiffany Weinkopf<sup>1,2</sup>; Xiang Zhu<sup>1</sup>; Rohan Patel<sup>1</sup>; John John<sup>1</sup>; William Jones<sup>1</sup>; Patrick Lammie<sup>2</sup>; Ron Orlando<sup>1</sup>; <sup>1</sup>*University of Georgia, Athens, GA*; <sup>2</sup>*CDC, Atlanta, GA*
- ThP 037 **Biomarker Candidate Discovery from Formalin-Fixed and Paraffin-Embedded Tissue Microarrays: Combining Electrophoresis and MALDI FT-ICR MS;** Hans-Rudolf Aerni; Dale S. Cornett; Richard M. Caprioli; *Vanderbilt University, Nashville, TN*
- ThP 038 **Differential Gel Electrophoresis of Bovine Samples Treated with Zeranone to Determine the Mechanism of Positive Muscle Growth in Cattle;** Jocelyn Hach; Young C Lin; Wei-Ping Ye; John Mark Reddish; Kari Green-Church; Macdonald Wick; *The Ohio State University, Columbus, OH*
- ThP 039 **High Throughput Sample Preparation for Stroke Biomarker Discovery Using the Digital Proteome Chip;** David Sarrao<sup>2</sup>; MingMing Ning<sup>1</sup>; Amol Prakash<sup>2</sup>; Taha Rezai<sup>2</sup>; Bryan Krastins<sup>2</sup>; Michael Athanas<sup>3</sup>; Mary F Lopez<sup>2</sup>; <sup>1</sup>*Massachusetts General Hospital, Boston, MA*; <sup>2</sup>*ThermoFisher Scientific, Cambridge, MA*; <sup>3</sup>*VAST Scientific, Wayland, MA*
- ThP 040 **Proteomics Analysis of the Human Embryonic Stem Cell Secretome Reveals Novel Differentiation Factor Candidates;** Qiangwei Xia; Guokai Chen; James A. Thomson; Joshua J. Coon; *Univ of Wisconsin, Madison, Madison, WI*
- ThP 041 **Multiplex iTRAQ-Based Quantitative Approach for Cochlear Nucleus Proteomics in a Mouse Model of Age-Related Hearing Loss (AHL);** Harsha P.

## THURSDAY POSTERS

- Gunawardena; Ling Xie; Yanbao Yu; Heather O'Donohue; Paul B. Manis; Xian Chen; *University of North Carolina, Chapel Hill, NC*
- ThP 042 **Glycan Biomarker Discovery of Adult Stem Cells Using Sequential Mass Spectrometry**; Jenny Jiao<sup>1</sup>; Hailong Zhang<sup>1</sup>; Krisha Panchalingam<sup>2</sup>; James L. Sherley<sup>2</sup>; Vernon N. Reinhold<sup>1</sup>; *<sup>1</sup>The Glycomics Center, University of New Hampshire, Durham, NH 03824; <sup>2</sup>Boston Biomedical Research Institute, Watertown, MA*
- ThP 043 **Leveraging MS/MS Spectra for Optimizing SRM Transitions for Hypothesis-Driven Biomarker Discovery in Human Plasma**; Simon Letarte<sup>1</sup>; Mi-youn Brusniak<sup>3</sup>; Jungchun Chen<sup>3</sup>; Hamid Mirzaei<sup>1</sup>; Emma Nimeus<sup>2</sup>; Carey Sheu<sup>1</sup>; Julian D Watts<sup>1</sup>; Ruedi Aebersold<sup>1,3</sup>; *<sup>1</sup>Institute for Systems Biology, Seattle, WA; <sup>2</sup>University Hospital, Lund, Sweden; <sup>3</sup>Swiss Federal Institute of Technology, Zurich, Switzerland*
- ThP 044 **ER Stress Pathway Related Prostate Cancer Biomarker Discovery from Needle Core Biopsy Samples Following Step-Wise Density Based Extraction and MALDI-TOF/TOF**; Wendy Lan; Marc Horn; *Prospect Biosystems, Inc., Newark, NJ*
- ThP 045 **Profiling the Prostate Cancer Plasma Membrane N-Glycoproteome via a Highly Specific Glycopeptide-Capture Chemistry**; Amelia C. Peterson<sup>1</sup>; Priti Koranne<sup>2</sup>; Bernd Wollscheid<sup>3</sup>; Daniel B. Martin<sup>2</sup>; *<sup>1</sup>University of Wisconsin-Madison, Madison, WI; <sup>2</sup>Institute for Systems Biology, Seattle, WA; <sup>3</sup>IMSB, ETH Zurich, Zurich, Switzerland*
- ThP 046 **Label-Free Quantitative Analysis of Glycoproteins Enriched through Lectin Affinity Chromatography of Human Serum: Application to the Study of Esophageal Adenocarcinoma**; Benjamin Mann<sup>1</sup>; Milan Madera<sup>2</sup>; Yehia Mechref<sup>2,3</sup>; Milos V. Novotny<sup>1,2</sup>; *<sup>1</sup>Indiana University, Bloomington, IN; <sup>2</sup>National Center for Glycomics and Glycoproteomics, Bloomington, IN; <sup>3</sup>METACyt Biochemical Analysis Center, Bloomington, IN*
- ThP 047 **A SILAC Study of Neurofibromatosis: Evaluating the Proteome of Tumor Specimen and Nf1/-Primary Cells**; Douglas A Johnson<sup>1</sup>; Catherine Formolo<sup>1,2</sup>; Tobey MacDonald<sup>1</sup>; Karlyne Reilly<sup>3</sup>; Roger Packer<sup>1</sup>; Yetrib Hathout<sup>1,2</sup>; *<sup>1</sup>Children's National Medical Center, Washington, DC; <sup>2</sup>George Washington University, Washington, DC; <sup>3</sup>National Cancer Institute, Frederick, MD*
- ThP 048 **Application of a Rationally Designed Gas Phase Fractionation Technique to Isotope Coded Affinity Tagging**; Kristian E. Swearingen; Martin Sadilek; Brad T. Cookson; Norman J. Dovichi; *University of Washington, Seattle, WA*
- ThP 049 **Enrichment and Identification of Low Abundance Proteins Using Hexapeptide Libraries**; Martha Stapels<sup>2</sup>; Catalin Doneanu<sup>2</sup>; Kate Smith<sup>1</sup>; Weibin Chen<sup>2</sup>; *<sup>1</sup>Bio-Rad Laboratories, Hercules, CA; <sup>2</sup>Waters Corporation, Milford, MA*
- ThP 050 **Improved Proteomic Approach for the Discovery of Potential Vaccine Targets in Trypanosoma Cruzi**; Ernesto S. Nakayaasu<sup>1</sup>; Tiago J.P. Sobreira<sup>2</sup>; Rafael Torres Jr.<sup>1</sup>; Luciane Ganiko<sup>1</sup>; Paulo S.L. Oliveira<sup>2</sup>; Alexandre F. Marques<sup>1</sup>; Igor C. Almeida<sup>1</sup>; *<sup>1</sup>University of Texas at El Paso, El Paso, TX; <sup>2</sup>Instituto do Coracao, Universidade de Sao Paulo, Sao Paulo, Brazil*
- ThP 051 **Comprehensive Plasma Analysis for Finding Pathogenic Factors in Preeclampsia**; Chongdong Liu<sup>2</sup>; Haiqiang Yu<sup>1</sup>; Yong Liang<sup>1</sup>; Yang Xu<sup>2</sup>; Haiteng Deng<sup>1</sup>; Zhenyu Zhang<sup>2</sup>; *<sup>1</sup>The Rockefeller University, New York, NY; <sup>2</sup>Beijing Chaoyang Hospital affiliated Capital Medic, Beijing, China*
- ThP 052 **LC-MS Analysis of Proteins Secreted By Activated Pancreatic Stellate Cells**; Angela Y Wehr<sup>1</sup>; Kenneth Yu<sup>1</sup>; Ian A. Blair<sup>2</sup>; *<sup>1</sup>University of Pennsylvania, Philadelphia, PA; <sup>2</sup>Univ. of Penn/SOM/Pharmacol, Philadelphia, PA*
- ThP 053 **Identification and Quantitation of Plasmodium falciparum and Anopheles gambiae Proteins from Plasmodium Parasite Infected Mosquitoes Using Isotope Labeling**; Raghothama Chaerkady<sup>1,2</sup>; Mobolaji A Okulate<sup>1</sup>; Kumaran Kandasamy<sup>1,2</sup>; Sutopa B Dwivedi<sup>2</sup>; Nirbhay Kumar<sup>1</sup>; Akhilesh Pandey<sup>1</sup>; *<sup>1</sup>Johns Hopkins University, Baltimore, MD; <sup>2</sup>Institute of Bioinformatics, Bangalore, India*
- ThP 054 **Relative Quantification in Mass Spectrometry Based Proteomics Studies: Understanding Bias and Variability in an iTRAQ Spike-in Study**; Ann L Oberg<sup>1</sup>; Douglas Mahoney<sup>1</sup>; Carrie Holtz-heppelmann<sup>1</sup>; Linda M Benson<sup>1</sup>; Leeann Higgins<sup>2</sup>; Terry Therneau<sup>1</sup>; Gary Nelstuen<sup>2</sup>; H. Robert Bergen, III<sup>1</sup>; *<sup>1</sup>Mayo Clinic, Rochester, MN; <sup>2</sup>University of Minnesota, Minneapolis, MN*
- ThP 055 **SILAC Based Quantitative Proteomics Approach to Identify Secreted Biomarkers of Esophageal Squamous Cell Carcinoma**; Manoj K. Kashyap<sup>1,2</sup>; H. C. Harsha<sup>1,2</sup>; Santosh S. Renuse<sup>2</sup>; Harsh A. Pawar<sup>2</sup>; Min-Sik Kim<sup>1</sup>; Arivusudar Marimuthu<sup>1,2</sup>; Raghothama Chaerkady<sup>1,2</sup>; Anil K. Rustgi<sup>3</sup>; Akhilesh Pandey<sup>1</sup>; *<sup>1</sup>Johns Hopkins University, Baltimore, MD; <sup>2</sup>Institute of Bioinformatics, Bangalore, India; <sup>3</sup>University of Pennsylvania, Philadelphia, Pennsylvania*
- ThP 056 **A Quantitative Label-Free Profiling Study of the Effects of Hypoxia on Mycobacterium Tuberculosis Membrane and Cytosol Proteins**; Hua Lin; Jing Wang; Thomas A. Shaler; Chris Becker; *PPD Biomarker Discovery Sciences, Menlo Park, CA*
- ThP 057 **Identification of Potential Biomarkers of Esophageal Squamous Cell Carcinoma Using Quantitative Proteomics**; Santosh Renuse<sup>2</sup>; Pradip Kumar Acharya<sup>2</sup>; H.C. Harsha<sup>1,2</sup>; Nandini Patankar<sup>2</sup>; Manoj K. Kashyap<sup>1,2</sup>; Yashwanth Subbannayya<sup>2</sup>; Harsh Pawar<sup>2</sup>; Raghothama Chaerkady<sup>1,2</sup>; Rekha V Kumar<sup>3</sup>; Akhilesh Pandey<sup>1</sup>; *<sup>1</sup>Johns Hopkins University, Baltimore, MD; <sup>2</sup>Institute of Bioinformatics, Bangalore, India; <sup>3</sup>Kidwai Memorial Institute of Oncology, Bangalore, India*
- ThP 058 **Comparative Proteomic Profiling of Osteoarthritis and Rheumatoid Arthritis**; Nandini Patankar<sup>1</sup>; Mitali Bhattacharjee<sup>1</sup>; Harsh Pawar<sup>1</sup>; Charles Jacob Harrys Kishore<sup>1</sup>; H. C. Harsha<sup>1,2</sup>; Santosh Renuse<sup>1</sup>; Raghothama Chaerkady<sup>1,2</sup>; Shankar Subramanian<sup>3</sup>; Akhilesh Pandey<sup>2</sup>; *<sup>1</sup>Institute of Bioinformatics, Bangalore, India; <sup>2</sup>Johns Hopkins University School of Medicine, Baltimore, MD; <sup>3</sup>Armed Forces Medical College, Pune, India*
- ThP 059 **Identification of Secreted Biomarkers of Pancreatic Cancer Using SILAC**; H.C. Harsha<sup>1,2</sup>; Jun Zhong<sup>1</sup>; Arivusudar Marimuthu<sup>1,2</sup>; Manoj K. Kashyap<sup>1,2</sup>; Sameer Kumar<sup>2</sup>; Raghothama Chaerkady<sup>1,2</sup>; Akhilesh Pandey<sup>1</sup>; *<sup>1</sup>Johns Hopkins University, Baltimore, MD; <sup>2</sup>Institute of Bioinformatics, Bangalore, India*
- ThP 060 **Evaluation of Formalin Fixed Paraffin Embedded Tissues for the Extraction and Comparison of Peptide Phosphorylation**; Paul L Auger Jr<sup>2</sup>;

## THURSDAY POSTERS

- Christopher Farnsworth<sup>3</sup>; Kimberly Lee<sup>2</sup>; Leo E. Bonilla<sup>2</sup>; Mike Davis<sup>1</sup>; <sup>1</sup>*Amgen, Inc., Thousand Oaks, CA*; <sup>2</sup>*Amgen, Thousand Oaks, CA*; <sup>3</sup>*Molecular Sciences-Amgen, Seattle, WA*
- ThP 061 **Identification of Differentially Modified Proteins in the Astrocytoma Secretome**; Catherine Formolo<sup>1,2</sup>; Kristy J. Brown<sup>1</sup>; Tobey J. MacDonald<sup>1,2</sup>; Yetrib Hathout<sup>1,2</sup>; <sup>1</sup>*Children's National Medical Center, Washington, DC*; <sup>2</sup>*George Washington University, Washington, DC*
- ThP 062 **Quantitative Neuroblastoma Cell Line Comparison Using a Pooled SILAC Reference Sample**; Charlene Bieri<sup>1</sup>; Lin-sheng Li; Logan J Everett; Stephen R Master; *University of Pennsylvania, Philadelphia, PA*
- ThP 063 **Multiplexed On-Target Protein Fractionation for MALDI Analysis of Sub-Proteome "Windows" into Complex Samples**; Rachel L Weller Roska; Stephen A Brose; Robert E Carlson; *Receptors LLC, Chaska, MN*
- ThP 064 **Identification of Serum Biomarker in Cysticercosis, the Major Parasitic Disease of the Central Nervous System**; Brian J. Ward; Momar Ndao; Christine Straccini; Bernard F. Gibbs; *McGill University, Montreal, QC*

## METABOLOMICS, 065 - 100

- ThP 065 **Global Metabolic Profiling in Plasma Samples of Patients Before and After Ketogenic Diet Therapy by Monolithic-C18 LC and HILIC/(+)ESI-MS**; Soledad Cerutti; Peggy R. Borum; Jodie V. Johnson; Richard A. Yost; David H. Powell; *University of Florida, Gainesville, FL*
- ThP 066 **Evaluation of Exact Mass and Relative Isotopic Abundance Measurements in LTQ-Orbitrap Mass Spectrometer for Further Metabolomics Database Building**; Ying Xu<sup>1</sup>; Geoffrey Madalinski<sup>1</sup>; Aurelie Roux<sup>1</sup>; Jean-francois Heilier<sup>1,2</sup>; Jerome Cotton<sup>1</sup>; Eric Ezan<sup>1</sup>; Jean-claude Tabet<sup>3</sup>; Christophe Junot<sup>1</sup>; <sup>1</sup>*CEA, Gif-sur-Yvette, France*; <sup>2</sup>*Université catholique de Louvain, Bruxelles, Belgique*; <sup>3</sup>*University Paris VI (UPMC), Paris, France*
- ThP 067 **Determining the Molecular Substrate Specificity of Kidney Anion Transporters *in vivo* Using Untargeted Metabolomics**; William Wikoff<sup>1</sup>; Sanjay Nigam<sup>3</sup>; Gary Siuzdak<sup>2</sup>; <sup>1</sup>*The Scripps Research Institute, San Diego, CA*; <sup>2</sup>*The Scripps Research Institute, La Jolla, CA*; <sup>3</sup>*University of California San Diego, La Jolla, CA*
- ThP 068 **Measurement of the Metabolome of Stagonospora Nodorum, a Major Pathogen on Wheat**; Robert Trengove<sup>1,3</sup>; Joel Gummer<sup>1,2</sup>; Kar-Chun Tan<sup>1,2</sup>; Peter S Solomon<sup>2,4</sup>; Richard P. Oliver<sup>1,2</sup>; <sup>1</sup>*Murdoch University, Murdoch, Australia*; <sup>2</sup>*ACNFP, Murdoch, Australia*; <sup>3</sup>*Metabolomics Australia (Murdoch Node), Murdoch, Australia*; <sup>4</sup>*Australian National University, Canberra, Australia*
- ThP 069 **Proof-of-Principle for Untargeted Plasma Metabolite Profiling to Discover Metabolic Aberrations Resulting from Gene Defects and Drug Treatments**; Qiuying Chen<sup>1</sup>; HC Park<sup>2</sup>; Brian Ratliff<sup>3</sup>; Michael Goligorsky<sup>2</sup>; Steven M. Fischer<sup>3</sup>; Steven S. Gross<sup>1</sup>; <sup>1</sup>*Weill Medical College of Cornell University, New York, NY*; <sup>2</sup>*New York Medical College, New York, NY*; <sup>3</sup>*Agilent Technologies, Santa Clara, CA*
- ThP 070 **Combining Unbiased Metabolic Profiling with Targeted Analysis of Specific Metabolites Using High Resolution Mass Spectrometry, a Step Forward in Metabolomics**; Albert Koulman<sup>1</sup>; Martin

- Hornshaw<sup>2</sup>; Gary Woffendin<sup>2</sup>; Helen Welchman<sup>2</sup>; Vinod Narayana<sup>1</sup>; Catharina Crone<sup>2</sup>; Dietrich Volmer<sup>1</sup>; <sup>1</sup>*Medical Research Council, Cambridge, UK*; <sup>2</sup>*Thermo Fisher Scientific, Hemel Hempstead, UK*
- ThP 071 **Mass-Based Global Metabolomics in a Neuropathic Rat Model Implicates the Central Nervous System as the Basis for Chronic Pain**; Gary J Patti<sup>1</sup>; Oscar Yanes<sup>1</sup>; James Bilstrand<sup>2</sup>; Jean-Philippe Courade<sup>2</sup>; Gary Siuzdak<sup>1</sup>; <sup>1</sup>*The Scripps Research Institute, La Jolla, CA*; <sup>2</sup>*Pfizer, Pain, Sandwich, UK*
- ThP 072 **Cuticular Wax Profiling of Individual *Arabidopsis* Flowers: Use of LVI-PTV-GCMS as a Means of Validating Metabolite Imaging Data**; Zhihong Song<sup>1,2</sup>; Ji Hyun Jun<sup>1,2</sup>; Zhenjiu Liu<sup>1,2</sup>; Edward S. Yeung<sup>1,2</sup>; Young Jin Lee<sup>1,2</sup>; Basil J. Nikolau<sup>1,2</sup>; <sup>1</sup>*Ames Lab of US DOE, Ames, IA*; <sup>2</sup>*Iowa State University, Ames, IA*
- ThP 073 **Visualization of Identified and Unknown Compounds in Metabolomic Data Sets of Environmental Tobacco Smoke Exposure in Rats**; Dinesh Kumar Barupal; Oliver Fiehn; *UC Davis, Davis, CA*
- ThP 074 **Optimization of Cell-based Protein Production Using Quantitative Targeted Metabolite Analysis of Animal Cell Cultures**; Denise U. Sonntag; Michael Urban; Matthias Keller; Klaus M. Weinberger; *Biocrates Life Sciences AG, Innsbruck, Austria*
- ThP 075 **An Automated Processing Pipeline for Accurate Mass LC-MS Data Enabling Combined Identification and Quantitation of Metabolites**; Ryan M. Danell<sup>1</sup>; Jun Han<sup>2</sup>; Christoph Borchers<sup>2</sup>; <sup>1</sup>*Danell Consulting, Greenville, NC*; <sup>2</sup>*UVic-GBC Proteomics Centre, Victoria, BC*
- ThP 076 **Ultra-Fast Quantitative Profiling of Endogenous Metabolites Based on Differential Chemical Labelling and MALDI-MS**; Dietrich A Volmer; Daniel Petras; Vinod Narayana; Albert Koulman; *Medical Research Council, Cambridge, UK*
- ThP 077 **Mass Spectrometry Based Metabonomics Study on Autism**; Jun Yang; Jozsef Lango; Bruce D. Hammock; *University of California, Davis, Davis, CA*
- ThP 078 **Metabolomics Reveals Unique *Medicago truncatula* Responses to the Devastating *Phymatotrichopsis* Root Rot Pathogen and Strategies for Metabolic Engineering of Resistance**; Wensheng Li<sup>1,2</sup>; Guoan Shen<sup>1</sup>; Srinivasa Rao Uppalapati<sup>1</sup>; Kirankumar S. Mysore<sup>1</sup>; Richard A. Dixon<sup>1</sup>; Lloyd W. Sumner<sup>1</sup>; <sup>1</sup>*The Noble Foundation, Ardmore, OK*; <sup>2</sup>*Monsanto, Inc., St. Louis, MO*
- ThP 079 **Human Metabotypes Associate with Genotypes and Environmental Challenge**; Rui Wang-Sattler<sup>1</sup>; Christian Gieger<sup>1</sup>; Yao Yu<sup>2</sup>; Kirstin Mittelstrass<sup>1</sup>; Eva Lattka<sup>1</sup>; Elisabeth Altmeier<sup>1</sup>; Karl H Ladwig<sup>1</sup>; Norbert Dahmen<sup>3</sup>; Pei Hao<sup>2</sup>; Yixue Li<sup>2</sup>; Lei Liu<sup>2</sup>; Ludwig Geistlinger<sup>1</sup>; Martin Hrabe de Angelis<sup>1,4</sup>; Florian Kronenberg<sup>5</sup>; Thomas Meitinger<sup>1,6</sup>; Hans-Werner Mewes<sup>1,4</sup>; H.-Erich Wichmann<sup>1,6</sup>; Klaus M. Weinberger<sup>7</sup>; Jerzy Adamski<sup>1,4</sup>; Karsten Suhre<sup>1,6</sup>; Thomas Illig<sup>1,6</sup>; <sup>1</sup>*Helmholtz Zentrum Muenchen, Neuherberg, Germany*; <sup>2</sup>*Chinese Academy of Sciences, Shanghai, China*; <sup>3</sup>*University of Mainz, Mainz, Germany*; <sup>4</sup>*Technische Universitaet Muenchen, Munich, Germany*; <sup>5</sup>*Innsbruck Medical University, Innsbruck, Austria*; <sup>6</sup>*Ludwig Maximilian Universitaet, Munich, Germany*; <sup>7</sup>*Biocrates Life Sciences, Innsbruck, Austria*

## THURSDAY POSTERS

- ThP 080 **Direct Mass Spectrometric Detection of Metabolic Changes in Live Cells: Uninfected vs HTLV-1 Infected T Cells;** Prabhakar Sripadi<sup>1</sup>; Rebecca L. Easley<sup>2</sup>; Fatah Kashanchi<sup>2</sup>; Akos Vertes<sup>1</sup>; <sup>1</sup>George Washington University, Washington, DC; <sup>2</sup>George Washington University School of Medicine, Washington, DC
- ThP 081 **Genetic Basis of Metabolome Variation in Yeast;** J. Scott Breunig<sup>1</sup>; Eugene Melamud<sup>1</sup>; Erin N. Smith<sup>2</sup>; Leonid Kruglyak<sup>1</sup>; Joshua Rabinowitz<sup>1</sup>; <sup>1</sup>Princeton University, Princeton, NJ; <sup>2</sup>The Scripps Research Institute, La Jolla, CA
- ThP 082 **Multiplexed Collision Induced Dissociation-LC/TOF MS for Non-target Metabolite Discovery and Profiling;** Feng Shi; Chao Li; A. Daniel Jones; Michigan State University, East Lansing, MI
- ThP 083 **Influence of Gut Microbiota Suppression and Recolonization on Host Metabolism: An Integrated UPLC-MS Based Metabonomic and Metagenomic Approach;** Jonathan R Swann<sup>1</sup>; Elizabeth J Want<sup>1</sup>; Kieran M Tuohy<sup>2</sup>; Glenn R Gibson<sup>2</sup>; Ian D Wilson<sup>3</sup>; James Sidaway<sup>3</sup>; Jeremy K Nicholson<sup>1</sup>; Elaine H Holmes<sup>1</sup>; <sup>1</sup>Imperial College, London, UK; <sup>2</sup>University of Reading, Reading, UK; <sup>3</sup>AstraZeneca, Macclesfield, UK
- ThP 084 **Investigating the Health of Whale Sharks at the Georgia Aquarium by Direct Analysis in Real Time Metabolic Serum Fingerprinting;** Manshui Zhou<sup>1</sup>; Alistair D.M. Dove<sup>2</sup>; David H. Webb<sup>2</sup>; Julia Kubanek<sup>1</sup>; Facundo Fernandez<sup>1</sup>; <sup>1</sup>Georgia Institute of Technology, Atlanta, GA; <sup>2</sup>Georgia Aquarium Inc, Atlanta, GA
- ThP 085 **Sterol Profiling of Phytosterolemia by Ultrahigh Pressure Liquid Chromatography-Mass Spectrometry;** Chiun-gung Juo<sup>1</sup>; Cheng-long Wang<sup>2</sup>; Dou-ming Niu<sup>3</sup>; Ming-shi Shiao<sup>4</sup>; <sup>1</sup>MMRC, Chang Gung University, Tao-yuan, Taiwan; <sup>2</sup>GIBMS, Chang Gung University, Tao-yuan, Taiwan; <sup>3</sup>Pediatrics, Taipei Veterans General Hospital, Taipei, Taiwan; <sup>4</sup>LS, Chang Gung University, Tao-yuan, Taiwan
- ThP 086 **LC-FTMS- and NMR-Based Metabolomics Reveal Age-Related Differences in Mice and Humans;** Quinlyn A. Soltow; Jennifer M. Johnson; Youngja Park; Tianwei Yu; Frederick H. Strobel; Dean P. Jones; Emory University, Atlanta, GA
- ThP 087 **Metabolomics Characterization of Metabolic Effect of HIF1 $\alpha$ ;** Ru Wei; Guodong Li; Yuxin Wang; Xu Xu; Kurt Eng; Albert B Seymour; Pfizer RTC, Cambridge, MA
- ThP 088 **Metabolomics Characterization of Adipocyte Cell Model;** Guodong Li; Yumei Lucy Sun; Debra F Nathan; Albert B Seymour; Ru Wei; Pfizer RTC, Cambridge, MA
- ThP 089 **Probing the Metabolic Response of Yeast to Nutrient Limitation by LC-MS/MS;** Christopher Crutchfield; Viktor Boer; Patrick Bradley; David Botstein; Joshua Rabinowitz; Princeton University, Princeton, NJ
- ThP 090 **Metabolite Variations of Genetic Strain Brassica Seeds Analyzed by Infusion FTMS-Based Metabolomics;** Jun Han<sup>1</sup>; Ryan M. Danell<sup>2</sup>; Raju Datla<sup>3</sup>; Christoph Borchers<sup>1</sup>; <sup>1</sup>UVic-GBC Proteomics Centre, Victoria, BC; <sup>2</sup>Danell Consulting, Greenville, NC; <sup>3</sup>NRC Plant Biotechnology Institute, Saskatoon, SK, Canada
- ThP 091 **A Non-Targeted Metabolomics Approach to Metabolite Analysis in a Complex Matrix Using a Sensitive, High Speed Mass Spectrometer;** Alina Dindyal-popescu<sup>1</sup>; Nanqun Zhu<sup>2</sup>; Thomas O'shea<sup>2</sup>; Jeffrey Miller<sup>3</sup>; <sup>1</sup>MDS Analytical Technologies, Concord, Canada; <sup>2</sup>Genzyme, Waltham, MA; <sup>3</sup>Applied Biosystems, Framingham, MA
- ThP 092 **A Bioinformatics Platform for Two Dimensional Gas Chromatography Mass Spectrometry-Based Metabolomics;** Bing Wang<sup>1,2</sup>; Aiqin Fang<sup>1</sup>; Charles Buck<sup>4</sup>; Mark Libardoni<sup>3</sup>; John Heim<sup>3</sup>; Xiang Zhang<sup>1</sup>; <sup>1</sup>University of Louisville, Louisville, KY; <sup>2</sup>Anhui University of Technology, Ma An Shan, China; <sup>3</sup>LECO Corporation, St. Joseph, MI; <sup>4</sup>Purdue University, West Lafayette, IN
- ThP 093 **Global Profiling Studies in Tumour Bearing Mouse Models Using High Mass Accuracy MSn Analysis;** Lindsay Lai<sup>1,2</sup>; Ian Wilson<sup>2</sup>; Robert Wilkinson<sup>2</sup>; Rajesh Odedra<sup>2</sup>; Simon Ashton<sup>3</sup>; Alan Barnes<sup>3</sup>; Neil Loftus<sup>3</sup>; <sup>1</sup>Manchester University, Manchester, UK; <sup>2</sup>AstraZeneca, Alderley Park, UK; <sup>3</sup>Shimadzu, Manchester, UK
- ThP 094 **Integration of NMR- and MS-Based Metabolic Profiling Techniques for Structural Determination of Marker Metabolites;** Satoko Kakoi<sup>1</sup>; Tadashi Nemoto<sup>2</sup>; Katsutoshi Takahashi<sup>2</sup>; Kazunori Saito<sup>3</sup>; Eri Sunaga<sup>2</sup>; Daichi Yukihira<sup>1</sup>; Yoshinori Fujimura<sup>1</sup>; Daisuke Miura<sup>1</sup>; Hiroyuki Wariishi<sup>1</sup>; <sup>1</sup>Kyushu university, Fukuoka, Japan; <sup>2</sup>National Institute of Advanced Industrial Science, Tsukuba, Japan; <sup>3</sup>Bruker Daltonics Japan, Yokohama, Japan
- ThP 095 **Optimisation of Metabolite Extraction from Liver Samples for Metabolic Profiling by UPLC-MS;** Perrine Masson; Jeremy K Nicholson; Elizabeth J Want; Imperial College, London, UK
- ThP 096 **Metabolomic Profiling Using Orbitrap Fourier Transform Mass Spectrometry;** Ludovic Muller<sup>1</sup>; Nathalie Priymenko<sup>2</sup>; Céline Domange<sup>2</sup>; Alain Paris<sup>2</sup>; Christophe Junot<sup>3</sup>; Sandra Alves<sup>1</sup>; Jean-claude Tabet<sup>1</sup>; <sup>1</sup>University Paris VI (UPMC), Paris Cedex 05, France; <sup>2</sup>INRA, Toulouse, France; <sup>3</sup>CEA, Gif-sur-Yvette, France
- ThP 097 **Metabolite Profiling and Biochemical Characterization of Bovine Milk Utilizing GC-MS and LC-MS/MS;** John Lennon; Carolyn Amoretty; Kurt Boudonck; Metabolon, Inc., Durham, NC
- ThP 098 **Comprehensive Profiling of Acylcarnitines in Human Urine by UPLC-MS/MS;** Azeret Zuniga; Liang Li; University of Alberta, Edmonton, Canada
- ThP 099 **Metabonomic Profiling of Human Plasma: The Impact of Sample Handling and Storage;** Bethanne Warrack; Janet Caceres-Cortes; Serhiy Hnatyshyn; Mohammed Jemal; Petia Shipkova; Michael Reily; Bristol-Myers Squibb, Princeton, NJ
- ThP 100 **Targeted Metabolomics of Sterols and Cholesterol Derivatives in Mammal Samples;** Therese Koal; Peter Enoch; Matthias Keller; Hans-Peter Deigner; Klaus M. Weinberger; Biocrates Life Sciences AG, Innsbruck, Austria

## PROTEOMICS: NEW APPROACHES, 100 - 130

- ThP 101 **Improved In-Gel Digestion Results and Work-Flow through the Use of a Mass Spectrometry Compatible Surfactant;** Daniel J. Simpson<sup>1</sup>; Sergei Saveliev<sup>1</sup>; Becky Godat<sup>1</sup>; Grzegorz Sabat<sup>2</sup>; <sup>1</sup>Promega Corp., Madison, WI; <sup>2</sup>University of Wisconsin, Madison, WI
- ThP 102 **Improving Protein Identification Efficiency for Comprehensive Proteome Mapping of Escherichia coli by LC-ESI MS/MS;** Xiaoxia Ye; Nan Wang; Liang Li; University of Alberta, Edmonton, Canada

## THURSDAY POSTERS

- ThP 103 **Improved Protein Coverage and Throughput in Proteomics Using On-Line Multiplexed Enzyme Digestions and Targeted MS/MS with a Modified LTQ-FTICR**; Daniel Lopez Ferrer<sup>1</sup>; Konstantinos Petritis<sup>1</sup>; Andrei Liyu<sup>1</sup>; Yufeng Shen<sup>1</sup>; Benito Canas<sup>2</sup>; Kim K. Hixson<sup>1</sup>; Richard D. Smith<sup>1</sup>; Mikhail Belov<sup>1</sup>; <sup>1</sup>PNNL / Battelle Northwest, Richland, WA; <sup>2</sup>Universidad Complutense de Madrid, Madrid, Spain
- ThP 104 **Integration of Top-Down and Bottom-Up Approaches: Application of RePlay for Confident Protein/Peptide Identifications by On-Line Post-Column Digestion and High-Resolution MS**; Konstantinos Petritis<sup>1</sup>; Daniel López-Ferrer<sup>1</sup>; Tian Zhixin<sup>1</sup>; Errol Robinson<sup>1</sup>; Mikhail Belov<sup>1</sup>; Ljiljana Paša-Tolić<sup>1</sup>; John Fjeldsted<sup>2</sup>; Leslie Leonard<sup>2</sup>; Simon J. Prosser<sup>3</sup>; David Schriemer<sup>4</sup>; Darren F. Lewis<sup>5</sup>; Richard D. Smith<sup>1</sup>; <sup>1</sup>Pacific Northwest National Laboratory, Richland, WA; <sup>2</sup>Agilent Technologies, Santa Clara, CA; <sup>3</sup>Advion BioSciences, Inc., Ithaca, NY; <sup>4</sup>University of Calgary, Calgary, AB; <sup>5</sup>Ilex Health & Science Group, Oak Harbor, WA
- ThP 105 **Profiling the Thiol-Disulfide Complement of *Saccharomyces Cerevisiae* Using Organomercurial Enrichment and Multi-Dimensional-nanoLC/MS**; Mark J. Raftery; *Bioanalytical Mass Spectrometry, Sydney, Australia*
- ThP 106 **2D RP/RP LC/MS as a Fractionation Tool for the Separation of Peptides in Human Ovarian Cancer Cell Extracts**; Monika Dzieciatkowska<sup>1</sup>; Tony Tegeler<sup>2</sup>; Jinsam You<sup>2</sup>; Mu Wang<sup>1,2</sup>; <sup>1</sup>Indiana University School of Medicine, Indianapolis, IN; <sup>2</sup>Monarch Life Sciences, Indianapolis, IN
- ThP 107 **Quantitative Evaluation of Enzymatic Activity of Immobilized Trypsin Microreactors for Protein Digestion and Identification**; Ying Long; Troy Wood; *SUNY at Buffalo, Buffalo, NY*
- ThP 108 **Toward Tubulin Proteomics: Separation and Identification of Acidic Peptides Using Offline High-pH RP-HPLC Coupled with Low-pH LC-MS/MS**; Chao Gong; Carthene R. Bazemore-Walker; *Brown University, Providence, RI*
- ThP 109 **Investigation of the *Clostridium Acetobutylicum* Proteome under Different Growth Conditions Using 1D and 2D RPRP nanoUPLC and Alternative Scanning LCMS**; Thérèse Mckenna<sup>1</sup>; Joanne B. Connolly<sup>1</sup>; Chris Hughes<sup>1</sup>; Jim Langridge<sup>1</sup>; Kevin Collins<sup>1</sup>; Keith R Compson<sup>1</sup>; Philippe Soucaille<sup>2</sup>; Gwenaelle Bestel-corre<sup>2</sup>; <sup>1</sup>Waters, Manchester, UK; <sup>2</sup>Metabolic Explorer, Saint Beaulire, France
- ThP 110 **Design of 1 Meter Long Monolithic nanoLC Columns for Ultra-High-Efficiency LC-MS Peptide Analyses**; Sebastiaan Eeltink; Evert-Jan Sneekes; Remco Swart; *Dionex Corporation, Amsterdam, Netherlands*
- ThP 111 **Automated Sample Loading and Desalting within a MudPIT Experiment to Increase Global Proteomic Identifications**; Robert Lj Graham<sup>1</sup>; John Lloyd<sup>2</sup>; Sonja Hess<sup>1</sup>; <sup>1</sup>Caltech, Pasadena, CA; <sup>2</sup>NIH/NIDDK, Germantown, MD
- ThP 112 **An Efficient Microfluidic Chip-Based Proteolytic Reactor for Online ESI-MS Analysis**; Peter Liuni; Tamanna Rob; Derek J. Wilson; *York University, Toronto, Canada*
- ThP 113 **High-Resolution Peptide Analysis Using Sub-Two Micron Columns**; Reno Nguyen; Joyce Wang; Mark Jacyno; Scott Anderson; Wendy Luo; Ian Chappell; *Grace Davison, Deerfield, IL*
- ThP 114 **Novel Cleavable Probe for Cysteiny-Peptide Enrichment and LC-MS/MS Analysis in Complex Protein Mixtures**; De Lin; Daniel C. Liebler; *Department of Biochemistry, Vanderbilt University, Nashville, TN*
- ThP 115 **Mapping Reagent Space for Fragment Ion Mass Defect Labeling (FIMDL) of Peptides**; Yu Shi; Bekim Bajrami; Xudong Yao; *Chemistry Department, University of Connecticut, Storrs, CT*
- ThP 116 **Expanding Mass Forbidden Zones in Tandem Mass Spectra for Improved Selectivity of Phosphoryl Fragment Ion Detection Using Peptide Esterification**; Bekim Bajrami<sup>1</sup>; Yu Shi<sup>1</sup>; Pascal Lapierre<sup>2</sup>; Xudong Yao<sup>1</sup>; <sup>1</sup>Chemistry Department, University of Connecticut, Storrs, CT; <sup>2</sup>Biotech Center, University of Connecticut, Storrs, CT
- ThP 117 **Evaluation of Dansyl-Peptides MS and MS/MS Features to Enhance the LC-MALDI-MS/MS Analysis**; Giovanni Chiappetta<sup>1,2</sup>; Segal Ndiaye<sup>1</sup>; Emmanuelle Demey<sup>1</sup>; Iman Haddad<sup>1</sup>; Gennaro Marino<sup>2</sup>; Angela Amoresano<sup>2</sup>; Joelle Vinh<sup>1</sup>; <sup>1</sup>ESPCI-ParisTech, Paris, France; <sup>2</sup>University of Naples Federico II, Naples, Italy
- ThP 118 **Enhancing the Detectability of Cysteine-Containing Peptides in MALDI-Based Proteomics**; Jon M. Bruno<sup>1</sup>; Carol E. Parker<sup>2</sup>; Nedyalka Dicheva<sup>2</sup>; Kristina E. Ile<sup>3</sup>; Mihaela Mocanu<sup>2</sup>; Vytas A. Bankaitis<sup>3</sup>; John C. Edwards<sup>1</sup>; <sup>1</sup>Department of Medicine, UNC-CH, Chapel Hill, NC; <sup>2</sup>UNC-Duke Proteomics Center, UNC-CH, Chapel Hill, NC; <sup>3</sup>Cell and Developmental Biology, UNC-CH, Chapel Hill, NC
- ThP 119 **Using Deuterium Oxide to Measure Turnover Rates of Plant Proteins**; XiaoYuan Yang; Wen-Ping Chen; Adrian D. Hegeman; William M. Gray; Jerry D. Cohen; *University of Minnesota, Saint Paul, MN*
- ThP 120 **The Potential of Fluorous Labeling as a Novel Tool to Enrich Low Abundance Cysteiny-Peptides**; Wantao Ying; David H. Perlman; Lei Li; Roger Theberge; Catherine E. Costello; Mark E. McComb; *Boston University School of Medicine, Boston, MA*
- ThP 121 **Optimization of UPLC and Orbitrap Analyses for Characterization of Single Proteins and Complex Mixtures**; Donald S Kirkpatrick; Corey E Bakalarski; Lilian Phu; Daisy Bustos; Jianjun Zhang; David Arnott; *Genentech, Inc., South San Francisco, CA*
- ThP 122 **Proteomic Analysis of a Sinitang Uptake Response in the Bacterium *Deinococcus Radiodurans***; Jingyueh Jeng; Chiashan Weng; *Chia Nan University of Pharmacy & Science, Tainan, Taiwan*
- ThP 123 **A Proteomic Approach to the Sources and Fate of Proteins in the Bering Sea**; Eli Moore<sup>1</sup>; Brook Nunn<sup>2</sup>; David R. Goodlett<sup>2</sup>; H. Rodger Harvey<sup>1</sup>; <sup>1</sup>University of Maryland/CES, Solomons, MD; <sup>2</sup>University of Washington, Seattle, WA
- ThP 124 **High Throughput Global Proteome Profiling of Mammalian Tissue Using Hybrid Triple Quadrupole / Linear Ion Trap Technology**; Xu Guo<sup>1</sup>; Brigitte Simons<sup>1</sup>; Feng Zhong<sup>1</sup>; Jason Hoffert<sup>2</sup>; <sup>1</sup>MDS Analytical Technologies, Concord, Canada; <sup>2</sup>NHLBI, Bethesda, MD
- ThP 125 **Mass Spectrometric Proteome Analysis of the Tardigrade *Hypsibius Dujardini*, a New Model Organism for Aging Research**; Birgit Schilling<sup>1</sup>; Aaron W. Miller<sup>2</sup>; Ronald Beavis<sup>2</sup>; Robert E. Hughes<sup>1</sup>;

## THURSDAY POSTERS

- Bradford W. Gibson<sup>1</sup>; <sup>1</sup>*Buck Institute for Age Research, Novato, CA*; <sup>2</sup>*University of British Columbia, Vancouver, BC*
- ThP 126 **Exploring the Structural Heterogeneity of the COP9 Signalingosome Complex**; Lei Fang; Xiaorong Wang; Lan Huang; *University of California, Irvine, CA*
- ThP 127 **Tandem Mass Spectrometry Analysis of Primary Amyloid Disease Patient Tissue Samples Fractionated by Hydrostatic Pressure Cycling**; Zhenning Hong; Giuseppe Infusini; Lawreen H. Connors; Martha Skinner; Catherine E. Costello; *Boston University School of Medicine, Boston, MA*
- ThP 128 **Differential Expression of Cellular Proteins in Pancreatic Cancer Cells in Response to Transketolase Inhibitor Oxythiamine Treatment**; Hengwei Zhang<sup>1</sup>; Rui Cao<sup>1</sup>; W. Paul Lee<sup>2</sup>; Caishu Deng<sup>1</sup>; Yingchun Zhao<sup>1</sup>; Jing Xiao<sup>1</sup>; Qingmei Xie<sup>1</sup>; Shu Lim<sup>2</sup>; Vay Liang Go<sup>2</sup>; Robert Recker<sup>1</sup>; Gary Guishan Xiao<sup>1</sup>; <sup>1</sup>*Creighton University, Omaha, NE*; <sup>2</sup>*Harbor - UCLA Medical Center, Torrance, CA*
- ThP 129 **A Novel Method for Protein Profiling in Layered Tissues Combining Serial Sectioning of Frozen Tissue with Gel-Free Label-Free Quantitative Proteomics**; Nikolai Skiba<sup>1,2</sup>; Boris Reidel<sup>1,2</sup>; Will Thompson<sup>3</sup>; Arthur Moseley<sup>1,3</sup>; Vadim Arshavsky<sup>2</sup>; <sup>1</sup>*Duke University, Durham, NC*; <sup>2</sup>*Duke University Eye Center, Durham, NC*; <sup>3</sup>*Institute for Genome Science and Policy, Durham, NC*
- ThP 130 **Development and Use of Complex Experimental Proteomics Standards**; Andrew T Bauman<sup>1</sup>; Roger Higdon<sup>1</sup>; Sean Rapson<sup>1</sup>; Brent Louie<sup>1</sup>; Jared C. Roach<sup>1</sup>; Natali Kolker<sup>1</sup>; Gerald van Belle<sup>2</sup>; Eugene Kolker<sup>1</sup>; <sup>1</sup>*Seattle Children's Research Institute, Seattle, WA*; <sup>2</sup>*University of Washington, Seattle, WA*
- SMALL MOLECULE ANALYSIS, 131 - 160
- ThP 131 **LC/MS/MS Analysis of Biogenic Amines in Foods and Beverages**; Robert Ellis<sup>1</sup>; Takeo Sakuma<sup>1</sup>; Michael Quilliam<sup>2</sup>; Pearl Blay<sup>2</sup>; William Hardstaff<sup>2</sup>; Vernon Bartlett<sup>3</sup>; Becky Wittig<sup>3</sup>; Daniel Bazavan<sup>4</sup>; Deolinda Fernandes<sup>1</sup>; David Cox<sup>1</sup>; Fouad Khalaf<sup>1</sup>; Andre Schreiber<sup>5</sup>; <sup>1</sup>*MDS Analytical Technologies, Concord, Canada*; <sup>2</sup>*National Research Council, Halifax, Canada*; <sup>3</sup>*Restek, Bellefonte, PA*; <sup>4</sup>*Dionex, Oakville, Canada*; <sup>5</sup>*Applied Biosystems, Toronto, Canada*
- ThP 132 **Confirmation of Azaspiracid Toxins in Outbreak Implicated Mussel Products**; Ann Abraham; Steven M. Plakas; Hudson R. Granade; Kathleen R. El Said; Robert W. Dickey; *FDA, Dauphin Island, AL*
- ThP 133 **Determination of Biogenic Amines in Seafood by GC- and LC-MS**; F. Aladar Bencsath; Ann Abraham; *FDA, Gulf Coast Seafood Laboratory, Dauphin Island, AL*
- ThP 134 **High Throughput Pesticides Screening Using LC/TOF-MS**; Takashi Ando<sup>1</sup>; Makiko Iki<sup>2</sup>; Haruo Hosoda<sup>3</sup>; Jun Watanabe<sup>3</sup>; <sup>1</sup>*Miyazaki Agricultural Research Institute, Miyazaki, Japan*; <sup>2</sup>*JA Miyazaki Keizairen, Miyazaki, Japan*; <sup>3</sup>*Bruker Daltonics K. K., Yokohama, Japan*
- ThP 135 **Mass-Spectrometric Analysis of Non-Nitrogen Containing Bisphosphonates: Clodronate**; Veniamin Lapko; Richard Olsen; Lee Zhu; Curtis Sheldon; Chad Briscoe; *MDS Pharma Services, Lincoln, NE*
- ThP 136 **Analysis of Underivatized Amino Acids in Root Exudates Using Hydrophilic Interaction Liquid Chromatography Combined with Electrospray Ionization Mass Spectrometry**; Madeleine Dellmour; Leonhard Jaitz; Eva Oburger; Markus Puschenreiter; Gunda Koellensperger; Stephan Hann; *University of Natural Resources and Applied Life S, Vienna, Austria*
- ThP 137 **High Sensitive Derivatization Method for the Analysis of Alendronic Acid in Human EDTA Plasma by LC/MS/MS**; Nicolas Jean; Chantal Gravel; Sylvain Lachance; Ann Levesque; Robert Masse; *Anapharm, Québec, Canada*
- ThP 138 **Formation Mechanism of Germanium Containing Zeolitic Materials Studied by ESI-MS and ESI-MS/MS**; Bernd Bastian Schaack; Ferdi Schueth; Wolfgang Schrader; *Max-Planck Inst Coal Res., Mülheim / Ruhr, Germany*
- ThP 139 **Laser Desorption Ionization on Nanowell Silicon Arrays Prepared by Argon Plasma Etching Using a Nanoporous Alumina Mask**; Basri Gulbakan<sup>1,2</sup>; Kaan Kececi<sup>1,2</sup>; Dooho Park<sup>1,2</sup>; Charles R Martin<sup>1,2</sup>; Weihong Tan<sup>1,2</sup>; David H Powell<sup>1,3</sup>; <sup>1</sup>*University of Florida Department of Chemistry, Gainesville, FL*; <sup>2</sup>*Center for Research at Bio/Nano Interface, Gainesville, FL*; <sup>3</sup>*UF Metabolomics Core, Gainesville, FL*
- ThP 140 **Ultra Specific Determination of Clopidogrel in Human Plasma: Improved Method Minimizing Metabolite Back-Conversion**; Guy Havard; Marie-Eve Coulombe; Sylvain Lachance; Ann Levesque; Robert Masse; *Anapharm, Québec, Canada*
- ThP 141 **Characterization of DNA Adducts and Secondary Plant Metabolites at the Microgram Level Using a Nano-electrospray LC-MS-Microcoil NMR Integrated System**; Rose Gathungu; Susan Schiavo; John Oldham; Carolyn Lee-Parsons; Paul Vourous; Roger Kautz; *Northeastern University, Boston, MA*
- ThP 142 **Analysis of Canine Kidney Stones Using Mass Spectrometry**; James A. Campbell<sup>1</sup>; Catherine E. Petersen<sup>1</sup>; David S. Wunschel<sup>1</sup>; Thomas O. Metz<sup>1</sup>; David W. Koppelaar<sup>1</sup>; Leo Romanczyk<sup>2</sup>; Peter Markhill<sup>2</sup>; John Hammerstone<sup>2</sup>; <sup>1</sup>*Battelle-PNNL, Richland, WA*; <sup>2</sup>*Waltham, a Division of Mars Incorporated, Leicestershire, UK*
- ThP 143 **Screening Phosphatidylcholine Injection Samples for Impurities by HPLC-UV-MS and GC/MS**; Jamie D. Dunn<sup>1</sup>; Jeffrey T. Woodruff<sup>1</sup>; John C. Reepmeyer<sup>1</sup>; Benjamin J. Westenberger<sup>1</sup>; Samia M. Nasr<sup>2</sup>; Michael E. Hadwiger<sup>1</sup>; <sup>1</sup>*FDA, CDER, Division of Pharmaceutical Analysis, St. Louis, MO*; <sup>2</sup>*FDA, CDER, Office of Compliance, Silver Spring, MD*
- ThP 144 **Quality by Design Approach for the Identification of Extractable Substances in Vial Stoppers Using GC/MS and LC/MS for Qualitative Identification**; Louis-philippe Labranche<sup>1</sup>; John Mchugh<sup>3</sup>; Yves G. Leblanc<sup>1</sup>; Alain Carrier<sup>2</sup>; <sup>1</sup>*Sandoz, Boucherville, Canada*; <sup>2</sup>*Sandoz Canada, Boucherville, QC*; <sup>3</sup>*Sandoz Canada, Inc., Boucherville, QC*
- ThP 145 **Development of an LC-MS-MS Assay for Cyclooxygenase Inhibition**; Hongmei Cao<sup>1,2</sup>; Rui Yu<sup>1,2</sup>; Yi Tao<sup>1,2</sup>; Dejan Nikolic<sup>1,2</sup>; Richard B. Van Breemen<sup>1,2</sup>; <sup>1</sup>*University of Illinois at Chicago, Chicago, IL*; <sup>2</sup>*College of Pharmacy, Chicago, IL*
- ThP 146 **Lipemic Effect Evaluation on Detection Variability Using Natural and Synthetic Lipemic Plasma in Four LC/MS/MS Methods**; Nancy Lampron; Sylvain Lachance; Ann Levesque; Robert Masse; *Anapharm, Québec, Canada*
- ThP 147 **Thermal Gravimetric Analysis – Mass Spectrometry (TGA-MS) in the Pharmaceutical Development Setting: Complementing Solid State**



## THURSDAY POSTERS

- Characterization;** John Caesar; Sneha Arekar; Yuegang Zhang; Mariusz Krawiec; Mick Hurrey; Adam Looker; Steve Johnston; *Vertex Pharmaceuticals, Cambridge, MA*
- ThP 148 **Quantitation of Propylene Glycol in Human Plasma by LC/MS/MS: A Bioanalytical Challenge;** Serge Auger; Sylvain Lachance; Julie Vibert; Sofi Gagnon-Carignan; Ann Levesque; Robert Masse; *Anapharm, Québec, Canada*
- ThP 149 **A LC-MS/MS Method for Quantification of Anthocyanins, Application in a Clinical Pharmacologic Study with a Bioadhesive Black Raspberry Gel Formulation;** Yonghua Ling<sup>1</sup>; Chen Ren<sup>1</sup>; Susan Mallery<sup>2</sup>; Carlos M. Ugalde<sup>2</sup>; U.V.R. Vijaya Saradhi<sup>1</sup>; Ping Pei<sup>2</sup>; Gary Stoner<sup>3,4</sup>; Kenneth K. Chan<sup>3,5</sup>; Zhongfa Liu<sup>1,3</sup>; <sup>1</sup>*College of Pharmacy, The Ohio State University, Columbus, OH*; <sup>2</sup>*College of Dentistry, The Ohio State University, Columbus, OH*; <sup>3</sup>*Comprehensive Cancer Center, The Ohio State Univ. Columbus, OH*; <sup>4</sup>*College of Medicine, The Ohio State University, Columbus, OH*; <sup>5</sup>*Colleges of Pharmacy & Medicine and Public Health, Columbus, OH*
- ThP 150 **A Novel Method for the Determination of Oxalic Acid in Root Exudates;** Leonhard Jaitz; Bernhard Müller; Madeleine Dell'mour; Eva Oburger; Markus Puschenreiter; Gunda Koellensperger; Stephan Hann; *University of Natural Resources and Applied Life S, Vienna, Austria*
- ThP 151 **Evaluation of Two Innovative Derivatization Reagents: Application to the Determination of Calcitriol and Tibolone Metabolites in Human Plasma by LC/MS/MS;** Guy Havard; Serge Auger; Sylvain Lachance; Johanne Lefebvre; Ann Levesque; Robert Masse; *Anapharm, Québec, Canada*
- ThP 152 **High Resolution Mass Spectrometry Analysis of 2-Substituted Benzothiazoles;** Jian Guo; Scott W. Grimm; *AstraZeneca Pharmaceuticals, Wilmington, DE*
- ThP 153 **Troubleshooting Cross-well Contamination in a 96-Well Plate of Volatile Pharmaceutical Compounds (Methylphenidate and Rivastigmine) during Evaporation Step Using LC/MS/MS;** Danielle Bouchard; Philippe Bélanger; Patrice Arcand; Robert Massé; *Anapharm, Quebec, QC*
- ThP 154 **Fast Method Development Approach for Multi-Analyte SPE Screening and the Analysis of 6 Different Compounds in Human Plasma by LC/MS/MS;** Philippe Belanger; Danielle Bouchard; Patrice Arcand; Robert Massé; *Anapharm, Québec, Canada*
- ThP 155 **Light Exposure of 4-oxo-13-cis-retinoic Acid and 4-oxo-all-trans-Retinoic Acid and Qualitative Analysis of their Degradation by-products Using LC/MS/MS;** Sébastien Gagné; Nadine Boudreau; Adrien Musuku; Robert Masse; *Anapharm, Quebec, QC*
- ThP 156 **Mass Spectrometry Based Assay for the Enzymatic Hydrolysis of Pseudo-Prochiral Malonate Diesters;** Dale A. Rosado, Jr.; Thomas Maestri; Douglas Masterson\*; *University of Southern Mississippi, Hattiesburg, MS*
- ThP 157 **High-Throughput Screening of Cardiovascular Drugs from Clinical Samples by MALDI MS;** Eduardo C. Dias; Joey C. Latham; Dan M. Roden; Nancy J. Brown; Richard M. Caprioli; *Vanderbilt Univ Sch of Med, Nashville, TN*
- ThP 158 **Alteration of Selective Neurotransmitters in Fetal Brains of Alcohol-Treated Prenatally C57BL/6 mice:**
- Quantitative Analysis Using Liquid Chromatography/Tandem Mass Spectrometry Methods;** Loubna A. Hammad<sup>2</sup>; Youssef Sari<sup>1</sup>; Marwa M. Saleh<sup>2</sup>; Yehia Mechref<sup>2</sup>; <sup>1</sup>*Department of Psychology, Indiana University, Bloomington, IN*; <sup>2</sup>*Department of Chemistry, Indiana University, Bloomington, IN*
- ThP 159 **Matrix-Ionization Laser Desorption (MILD) for Structural Elucidation of Small Molecules;** Asanka S Rathnayake<sup>1</sup>; Sadish Karunaweera<sup>1</sup>; Thushani N. Herath<sup>1</sup>; Ellen D. Inutan<sup>1</sup>; Charles N. McEwen<sup>2</sup>; J Michael Walker<sup>3</sup>; Sarah Trimpin<sup>1</sup>; <sup>1</sup>*Wayne State University, Detroit, MI*; <sup>2</sup>*Univ. of the Sciences in PA, Philadelphia, PA*; <sup>3</sup>*Indiana University, Bloomington, IN*
- ThP 160 **How Low Can We Go? An Evaluation of Strategies for Small-Molecule Analysis by MALDI;** Christopher C. Lai; Lawrence R. Phillips; Lyndsay L. Smith; James A. Kelley; *NCI/NIH, Frederick, MD*

IMAGING MS: SMALL MOLECULES AND LIPIDS,  
161 - 182

- ThP 161 **High-Sensitivity Mass Spectrometric Imaging Applied to the Analysis of TB Drug Distributions in Infected Rabbit Lung;** Brendan Prideaux<sup>1</sup>; Dieter Staab<sup>1</sup>; Veronique Dartois<sup>2</sup>; Anne Goh<sup>2</sup>; Hui Qing Ang<sup>2</sup>; Peiting Zeng<sup>2</sup>; Maxime Herve<sup>2</sup>; Laura Via<sup>3</sup>; Clifton E. Barry<sup>3</sup>; Markus Stoeckli<sup>1</sup>; <sup>1</sup>*Novartis Institutes for BioMedical Research, Basel, Switzerland*; <sup>2</sup>*Novartis Institute for Tropical Diseases, Singapore, Singapore*; <sup>3</sup>*National Institutes of Health, Bethesda, MD*
- ThP 162 **Strategies for Drugs Imaging;** Alice M. Delvolvé; Jeremy Post; Shelley N. Jackson; Amina S. Woods; *NIH/NIDA/IRP, Baltimore, MD*
- ThP 163 **Imaging Mass Spectrometry Provides Chemical Makeup of Samples Prepared by Matrix-Assisted Laser Desorption/Ionization Methods;** Thushani N. Herath<sup>1</sup>; Ellen D. Inutan<sup>1</sup>; Steffen M. Wiedner<sup>2</sup>; Sarah Trimpin<sup>1</sup>; <sup>1</sup>*Wayne State University, Detroit, MI*; <sup>2</sup>*Fed. Inst. of Mat. Research, Berlin, Germany*
- ThP 164 **Imaging Melamine in Egg Samples by Surface Desorption Atmospheric Pressure Chemical Ionization Mass Spectrometry;** Haiwei Gu<sup>1,2</sup>; Shuiping Yang<sup>2</sup>; Huanwen Chen<sup>2,3</sup>; Yuling Yang<sup>2</sup>; Bin Hu<sup>2</sup>; Xie Zhang<sup>2</sup>; Yufen Zhou<sup>2</sup>; Lili Zhang<sup>3</sup>; <sup>1</sup>*Validation Resources, LLC, Bend, OR*; <sup>2</sup>*East China Institute of Technology, Fuzhou, P. R. China*; <sup>3</sup>*Jilin University, Changchun, P. R. China*
- ThP 165 **Quantitative Mass Spectrometric Imaging of Endogenous Acetylcarnitine from Piglet Brain Tissue Using Acetyl-d<sub>3</sub>-Carnitine as an Internal Standard;** David A. Pirman; Peggy R. Borum; Richard A. Yost; *University of Florida, Gainesville, FL*
- ThP 166 **Ambient Molecular Imaging of Matrix-Free Plant Tissues Using Electrospray-Assisted Laser Desorption Ionization Mass Spectrometry;** Siou-Sian Jhang; Min-Zong Huang; Jentaie Shiea; *National Sun Yat-Sen Univ., Kaohsiung, Taiwan*
- ThP 167 **Direct Analysis of Irinotecan Metabolites by Accurate Mass and High Resolution Tissue Imaging off Tumor Samples;** Huy Bui<sup>1</sup>; Maria C. Prieto Conaway<sup>1</sup>; Shousong Cao<sup>2</sup>; Farukh Durrani<sup>2</sup>; Youcef Rustum<sup>2</sup>; Ping Wang<sup>2</sup>; Khin Marlar<sup>2</sup>; A. Latif Kazim<sup>2</sup>; <sup>1</sup>*Thermo Fisher Scientific, San Jose, CA*; <sup>2</sup>*Roswell Park Cancer Institute, Buffalo, NY*
- ThP 168 **MALDI Imaging of Pharmaceuticals in Zebrafish for Discovery and Drug Safety Screening;** Stacey R.



## THURSDAY POSTERS

- Oppenheimer<sup>1</sup>; Jiangwei Li<sup>2</sup>; <sup>1</sup>Pfizer, Groton, CT; <sup>2</sup>Iowa State University, Ames, IA
- ThP 169 **Mass Spectrometric Imaging of AFEX treated Corn Stover**; Zhen Li<sup>1</sup>; Paul Bohn<sup>2</sup>; Jonathan Sweedler<sup>1</sup>; <sup>1</sup>University of Illinois, Urbana, IL; <sup>2</sup>Notre Dame University, Notre Dame, IN
- ThP 170 **The Use of Imaging MALDI to Probe the Distribution of the Components of Gastropod Mucus**; David Evason<sup>2</sup>; Vic Parr<sup>1</sup>; Mark D. Mills<sup>2</sup>; Alexis Polley<sup>3</sup>; <sup>1</sup>SAI, LTD., Manchester, UK; <sup>2</sup>SAI, Manchester, UK; <sup>3</sup>SAI Ltd., Manchester, UK
- ThP 171 **MALDI - MS Imaging of Tumour Lipids in DU145 and HCT116 Tumour Xenografts and the Effects of Vinblastine**; Paul J Trim<sup>1</sup>; Kelly M Hearne<sup>2</sup>; Chris Brown<sup>2</sup>; Andrew McEwen<sup>2</sup>; Emmanuelle Claude<sup>3</sup>; Peter S. Marshall<sup>4</sup>; Alessandra P Princivalle<sup>1</sup>; Malcolm Clench<sup>1</sup>; <sup>1</sup>Sheffield Hallam Uni, UK, Sheffield, UK; <sup>2</sup>Quotient Bioresearch Ltd, Rushden, UK; <sup>3</sup>Waters Corporation, Manchester, UK; <sup>4</sup>GlaxoSmithKline, Stevenage, UK
- ThP 172 **Imaging of Phospholipids in Formalin Fixed Rat Brain Sections via MALDI-MS**; Claire Louise Carter<sup>1</sup>; Cameron McLeod<sup>1</sup>; Josephine Bunch<sup>2</sup>; <sup>1</sup>The University of Sheffield, Sheffield, UK; <sup>2</sup>University of Birmingham, Birmingham, UK
- ThP 173 **MALDI-FTICR Imaging of Phospholipids in Tissue: More Peaks but More Images?**; Shannon Cornett<sup>1</sup>; Hans Rudolf Aerni<sup>1</sup>; Richard M. Caprioli<sup>2</sup>; <sup>1</sup>Vanderbilt University, Nashville, TN; <sup>2</sup>Vanderbilt Univ Sch of Med, Nashville, TN
- ThP 174 **A Target Amplification Strategy to Detect Enzyme Activity by Imaging MS**; Junhai Yang<sup>1</sup>; Pierre Chaurand<sup>1</sup>; Ned Porter<sup>1</sup>; Richard M. Caprioli<sup>2</sup>; <sup>1</sup>Vanderbilt University, Nashville, TN; <sup>2</sup>Vanderbilt Univ Sch of Med, Nashville, TN
- ThP 175 **Determination of Brain Extracted Lipids by Thin-Layer Chromatography – Imaging Desorption Electrospray Ionization (TLC-Imaging DESI)**; Demian R. Iffa<sup>1</sup>; Giuseppe Paglia<sup>2</sup>; Gaetano Corso<sup>2</sup>; R. Graham Cooks<sup>1</sup>; <sup>1</sup>Purdue University, West Lafayette, IN; <sup>2</sup>University of Foggia, Foggia, Italy
- ThP 176 **Mass Spectrometry Imaging of Mating Tetrahymena Thermophila Reveals that Cell Morphology Changes Precede Lipid Domain Formation**; Michael E. Kurczyk<sup>1</sup>; Paul D. Piehowski<sup>1</sup>; Michael L Heien<sup>1</sup>; Andrew G. Ewing<sup>1,2</sup>; Nick Winograd<sup>1</sup>; <sup>1</sup>Penn State University, University Park, PA; <sup>2</sup>Gothenburg University, Gothenburg, Sweden
- ThP 177 **MALDI Imaging of Phospholipids: Validation of Signal Response**; Satu Puolitaival<sup>1</sup>; Stephen Milne<sup>2</sup>; H. Alex Brown<sup>3</sup>; Richard M. Caprioli<sup>4</sup>; <sup>1</sup>Vanderbilt University, Nashville, TN; <sup>2</sup>Vanderbilt University Medical Center, Nashville, TN; <sup>3</sup>VUMC Cancer Research, Nashville, TN; <sup>4</sup>Vanderbilt Univ Sch of Med, Nashville, TN
- ThP 178 **High Resolution MALDI Imaging of Lipids and Drug Metabolites in Brain Tissue**; Sucharita Dutta<sup>1</sup>; Shelley N Jackson<sup>2</sup>; Alice Devolve<sup>2</sup>; Amina S. Woods<sup>2</sup>; <sup>1</sup>Thermo Fisher, San Jose, CA; <sup>2</sup>NIDA-IRP, NIH, Baltimore, MD
- ThP 179 **The Localization of Lipids Eye Flat-Mounts by Imaging Mass Spectrometry**; Timothy Garrett; William W. Dawson; Richard A. Yost; <sup>1</sup>University of Florida, Gainesville, FL
- ThP 180 **Imaging Mass Spectrometry of Antibiotics in *S. epidermidis* Bacterial Biofilms Using Laser Desorption 7.87 eV Postionization**; Gerald Gasper<sup>1</sup>; Ross Carlson<sup>2</sup>; Artem Akhmetov<sup>1</sup>; Jerry F. Moore<sup>3</sup>; Peng Lu<sup>4</sup>; Amy V. Walker<sup>4</sup>; Luke Hanley<sup>1</sup>; <sup>1</sup>University of Illinois at Chicago, Chemistry, Chicago, Illinois; <sup>2</sup>Montana State University, Bozeman, Montana; <sup>3</sup>MassThink LLC, Naperville, IL; <sup>4</sup>Department of Chemistry, Washington University, St. Louis, MO
- ThP 181 **The Use of MSn and High Resolution MS for the Identification and Imaging of Lipids in Spinal Cord**; Rachelle R. Landgraf<sup>1</sup>; Whitney Stutts<sup>1</sup>; Timothy J. Garrett<sup>1</sup>; Peter W. Stacpoole<sup>1</sup>; Maria C. Prieto Conaway<sup>2</sup>; Richard A. Yost<sup>1</sup>; <sup>1</sup>University of Florida, Gainesville, FL; <sup>2</sup>Thermo Fisher Scientific, Pleasanton, CA
- ThP 182 **Validation Studies of Phospholipids in Rat Brain Using Imaging Mass Spectrometry**; Joseph A. Hankin; Robert C. Murphy; Robert M. Barkley; <sup>1</sup>University of Colorado Denver, Aurora, CO

## PROTEOMICS: PEPTIDE SEQUENCING, 183 - 204

- ThP 183 **Sequence Determination of  $\beta$ -amyloid Autoantibodies Using Combined Liquid Chromatography and Tandem Mass Spectrometry**; Claudia Cozma; Irina Perdivara; Adrian Moise; Michael Przybylski; <sup>1</sup>University of Konstanz, Konstanz, Germany
- ThP 184 **Liquid Chromatography Mass Spectrometry for the Determination of the Site-Specific Fusion of a Therapeutic Antibody**; Robert Murphy; Ryan Preston; <sup>1</sup>Covx Research, San Diego, CA
- ThP 185 **Peptide Mapping with Infusion for Rapid and Complete Sequence Coverage of an IgG2 Molecule Using Three Modes of Dissociation**; Adam G Harder; Steven Cockrill; Justin M Prien; <sup>1</sup>Amgen Inc., Longmont, CO
- ThP 186 **Bioactive Peptides in the Skin Secretion of Ranid and Hylid Frogs: Complex Approach for the Mass Spectrometric *de novo* Sequencing**; Tatiana Samgina; Sergey Kovalev; Egor Vorontsov; Vladimir Gorshkov; Albert T. Lebedev; <sup>1</sup>Moscow State University, Moscow, Russian Federation
- ThP 187 **Efficacy of LC-TOFMS Signal Deconvolution for Peak Finding and Identification of Peptide Mixtures**; Fumihiko Tsuchiya<sup>1</sup>; Matthew Giardina<sup>2</sup>; Mark Libardoni<sup>2</sup>; <sup>1</sup>LECO Japan Corporation, Tokyo, Japan; <sup>2</sup>LECO Corporation, St. Joseph, MI
- ThP 188 **Evaluation of ETD Fragmentation-Enhancing Peptide Charge Modification Strategies Amenable to Complex Samples and Direct Use with HPLC-MS**; A. Michelle English; Namrata Udeshi; David F. Allison; Philip Compton; Jeffrey Shabanowitz; Marty W. Mayo; Donald F. Hunt; <sup>1</sup>University of Virginia, Charlottesville, VA
- ThP 189 **High Confidence in Protein Identification Using ppb Mass Accuracy by Fourier Transform Ion Cyclotron Resonance Mass Spectrometry**; Matthias Witt; Jens Fuchser; <sup>1</sup>Bruker Daltonik GmbH, Bremen, Germany
- ThP 190 **Analysing Data from Large Scale ECD Proteomics Experiments: Protein Database Searching and Localization of Sites of Phosphorylation**; Helen Cooper; Steve Sweet; Andrew W Jones; Debbie L Cunningham; Christopher M Bailey; John K Heath; <sup>1</sup>University of Birmingham, Birmingham, UK
- ThP 191 **Optimizing Parameters for CID Based Shotgun Proteomic Experiments on an LTQ-Orbitrap Mass Spectrometer**; Min-Sik Kim<sup>1</sup>; Raghothama Chaerkady<sup>2</sup>; Kumaran Kandasamy<sup>2</sup>; Akhilesh Pandey<sup>1</sup>;

## THURSDAY POSTERS

- <sup>1</sup>Johns Hopkins University School of Medicine, Baltimore, MD; <sup>2</sup>Institute of Bioinformatics, Bangalore, India
- ThP 192 **Reducing Protein Identification False Positive Rates in Shotgun Proteomics Using Automated Isoelectric Point Filtering Techniques;** Susan K. Van Riper; Matthew D. Stone; John V. Carlis; Timothy J. Griffin; University of Minnesota, Minneapolis, MN
- ThP 193 **Determining the Identity of Unassignable Peptides in an Accurate Mass Measurement Shotgun Proteomics Analysis Using Electron Induced Dissociation;** Melissa Warren; Chunyan Li; Jon Amster; University of Georgia, Athens, GA
- ThP 194 **Proteomic Analysis of Secreted Proteins of Human Olfactory Stem Cells in Culture;** Cristina Di Poto<sup>1</sup>; Hakan Ozdener<sup>2</sup>; Nancy E. Rawson<sup>2</sup>; Lewis K. Pannell<sup>3</sup>; James N. Baraniuk<sup>1</sup>; <sup>1</sup>Georgetown University, Washington, DC; <sup>2</sup>Monell Institute for Chemical Senses, Philadelphia, PA; <sup>3</sup>Mitchell Cancer Institute, Mobile, AL
- ThP 195 **Identification of Novel Conotoxins in *Conus novaeollandiae* Using a Combination of cDNA Sequencing and Multiple Reaction Monitoring Mass Spectrometry;** Helena Safavi-Hemami; Bruce G. Livett; Nicholas A. Williamson; Anthony W. Purcell; Department of Biochemistry University of Melbourne, Melbourne, Australia
- ThP 196 **Exploring Proteome Responses of *Alkalimonas amylolytica* N10 to Different External pHs with Combination Strategy of *de novo* Peptide;** Quanhui Wang<sup>1</sup>; Zhong Qian<sup>1</sup>; Bo Meng<sup>1</sup>; Fuli Peng<sup>1</sup>; Wei Tong<sup>1</sup>; Zhuowei Wang<sup>1</sup>; Chuanqi Zhou<sup>1</sup>; Qian Wang<sup>1</sup>; Siqi Liu<sup>1</sup>; Yanhe Ma<sup>2</sup>; <sup>1</sup>Beijing Genomics Institute, CAS, Beijing, China; <sup>2</sup>Institute of Microbiology, CAS, Beijing, China
- ThP 197 **Isolation of C-Terminal Peptides by Strong Anion-Exchanger from Proteolytic Digests of Fully Amidated Proteins for Mass Spectrometric Sequencing;** Takashi Nakazawa<sup>1</sup>; Mariko Nakagawa<sup>1</sup>; Hiroki Kuyama<sup>3</sup>; Eiji Ando<sup>2</sup>; Osamu Nishimura<sup>3</sup>; Minoru Yamaguchi<sup>2</sup>; Susumu Tsunasawa<sup>3</sup>; <sup>1</sup>Nara Women's University, Nara, Japan; <sup>2</sup>Shimadzu Corp, Kyoto, Kyoto; <sup>3</sup>Institute for Protein Research, Suita, Osaka
- ThP 198 **Thermolytic Digestion of Peptides and Polymers Using Microfabricated Devices with Product Analysis Using DESI and MALDI Introduction;** Curtis Mowry<sup>1</sup>; Matthew Moorman<sup>1</sup>; Amy Allen<sup>1</sup>; Franco Basile<sup>2</sup>; <sup>1</sup>Sandia National Laboratories, Albuquerque, NM; <sup>2</sup>University of Wyoming, Laramie, WY
- ThP 199 **Use of a Data Dependent Decision Tree Strategy for Improving Proteomics Survey Results on a Linear Ion Trap;** Julie Horner; Andreas F Huhmer; Roger G. Biringer; Julian J Phillips; Thermo Fisher Scientific, San Jose, CA
- ThP 200 **A General Method to Compare Mass Spectrometry Peptide Sequencing Variables Using Support Vector Machine Learning;** D. C. Anderson; Institute of Molecular Biology, Univ. of Oregon, Eugene, OR
- ThP 201 **High Confidence Identification of Bioagent Biomarkers Using Top-Down Analyses on an Orbitrap;** Colin Wynne<sup>1</sup>; Catherine Fenselau<sup>1</sup>; Nathan J. Edwards<sup>2</sup>; <sup>1</sup>University of Maryland, College Park, MD; <sup>2</sup>Georgetown University Medical Center, Washington, DC
- ThP 202 **Overcoming Undersampling in Proteomic Experiments with the Help of a Novel Hybrid Linear Trap-Orbitrap Mass Spectrometer;** Eugen Damoc<sup>1</sup>; Eduard Denisov<sup>1</sup>; Justin Blethrow<sup>2</sup>; Tonya Pekar Second<sup>2</sup>; Vlad Zabrouskov<sup>2</sup>; Jens Griep-Raming<sup>1</sup>; Alexander Makarov<sup>1</sup>; Thomas Moehring<sup>1</sup>; <sup>1</sup>Thermo Fisher Scientific (Bremen) GmbH, Bremen, Germany; <sup>2</sup>Thermo Fisher Scientific, San Jose, CA
- ThP 203 ***De novo* Sequencing of Polypeptides Isolated from the Leukocyte of the American Alligator (*Alligator mississippiensis*);** Lancia N.F. Darville<sup>1</sup>; Mark E. Merchant<sup>2</sup>; Azeem Hasan<sup>1</sup>; Kermit K. Murray<sup>1</sup>; <sup>1</sup>Louisiana State University, Baton Rouge, LA; <sup>2</sup>McNeese State University, Lake Charles, LA
- ThP 204 **RAId\_DbS: MS/MS Based Peptide Identification with Knowledge Integration;** Gelio Alves; Aleksey Ogurtsov; Yi-kuo Yu; National Center for Biotechnology Information, NLM, Bethesda, MD
- 
- PROTEOMICS: PROTEIN SEQUENCING, 205 - 213**
- ThP 205 **Intact Protein Sequencing Using ETD PTR in Linear Ion Trap;** Zhiqi Hao; Jae C Schwartz; Andreas F Huhmer; Thermo Fisher Scientific, San Jose, CA
- ThP 206 **Simultaneous Transmission Mode Collision-Induced Dissociation and Ion/Ion Reactions for Top-Down Protein Identification/Characterization Using a Quadrupole/Time-of-Flight Tandem Mass Spectrometer;** Jian Liu; Teng-Yi Huang; Scott A. McLuckey; Purdue University, West Lafayette, IN
- ThP 207 **The Role of Increased Resolution and Scan Speed of Ion Traps for Top-Down Proteomics with ETD/PTR;** Michael Schubert; Christian Albers; Andreas Brekenfeld; Christoph Gebhardt; Ralf Hartmer; Bruker Daltonik GmbH, Bremen, Germany
- ThP 208 **High-Resolution Orbitrap-ETD for Characterization of Intact HDL Proteins;** Matthew Mazur; Helene Cardasis; Yi Du; Nathan Yates; Ronald Hendrickson; Merck Research Laboratories, Rahway, NJ
- ThP 209 **Characterization of Gray Seal Hemoglobin Variants Using ESI-MS/MS;** Saurav Uppal; Jingshu Guo; Timothy Mueser; Wendell P. Griffith; University of Toledo, Toledo, OH
- ThP 210 ***De novo* Sequencing Structural Determination of New Mammalian Hemoglobins by Tandem Mass Spectrometry and X-Ray Crystallography;** Jingshu Guo; Lindsey Easton; Timothy Mueser; Wendell P. Griffith; University of Toledo, Toledo, OH
- ThP 211 **Top-Down Protein Sequencing in an LTQ-FTMS Equipped with a Front End Electron Transfer Dissociation Source;** Patrick F. James<sup>1</sup>; Philip D. Compton<sup>1</sup>; Jeffrey Shabanowitz<sup>1</sup>; Donald F. Hunt<sup>2</sup>; <sup>1</sup>Dept. of Chemistry, UVA, Charlottesville, VA; <sup>2</sup>Dept. of Chemistry and Pathology, UVA, Charlottesville, VA
- ThP 212 **Middle Down Analysis Using an Orbitrap for Polypeptides Produced by Site-Selective Acid Cleavage;** Joe Cannon<sup>1</sup>; Karen Lohnes<sup>1</sup>; Colin Wynne<sup>1</sup>; Nathan J. Edwards<sup>2</sup>; Catherine Fenselau<sup>1</sup>; <sup>1</sup>University of Maryland, College Park, MD; <sup>2</sup>Georgetown University Medical Center, Washington, DC
- ThP 213 **Modulating the Declustering Potential Affords Selective Tandem Mass Spectrometry within the Ion Source and Reveals Three Distinct Protein Fragmentation Pathways;** Jennifer S. Cobb<sup>1</sup>; Michael L. Easterling<sup>2</sup>; Jeffrey N. Agar<sup>1</sup>; <sup>1</sup>Brandeis University, Waltham, MA; <sup>2</sup>Bruker Daltonics Inc., Billerica, MA

## THURSDAY POSTERS

## QUANTITATION: SMALL MOLECULES, 214 - 241

- ThP 214 **Low Level LC-MS/MS Quantitation of Psychotherapeutics in Extracellular Fluid to Support Microdialysis Studies;** Sarah M Osgood; Stacey L Becker; Lisa M Buchholz; Roxanne Gorczyca; Christopher L Shaffer; Hans Rollem; *Pfizer, Groton, CT*
- ThP 215 **Matrix Effect Correlation for Multiple Analytes Using a Single Internal Standard;** Yuichiro Hashimoto; Kazuki Tanaka; Masuyuki Sugiyama; Hideki Hasegawa; *Hitachi, Ltd, Central Research Lab, Kokubunji, Tokyo, Japan*
- ThP 216 **Method Development for the Absolute Quantification of NNAL from Smoker's Urine by LC-ESI-MS/MS;** Showket H. Bhat; Stacy L. Gelhaus; Ian A. Blair; *University of Pennsylvania, Philadelphia, PA*
- ThP 217 **Considerations for Dried Blood Spots as an Alternative Matrix for Support of Pharmacokinetic and Toxicokinetic Studies in Drug Development;** Chester L Bowen; Christopher A. Evans; *GlaxoSmithKline, King of Prussia, PA*
- ThP 218 **Improved Quantitative Detection of Three Major Di(2-ethylhexyl)phthalate (DEHP) Metabolites in Urine Using Isotope Dilution GC/NCI-MS;** Yan Zin Chang; *Chung Shan Medical University, Taichung City, Taiwan*
- ThP 219 **Quantitation of ERB-257 and ERB-041 in Monkey and Rat Plasma Using Automated Solid Phase Extraction and LC/MS/MS;** Jasper X. Chu; Richard Xue; James Saunders; Zhiping Jiang; Yuliya Livson; Zhi Liu; Peter Amorusi; Allena Ji; *Wyeth Research, Pearl River, NY*
- ThP 220 **Trace Level Quantification of Poly-Dispersed Polyethyleneglycol Benzenesulfonate Esters in Drug Formulations by LC-MS Using Precursor-Ion Scanning;** Wei Ding; Yande Huang; Bao-Ning Su; Venkatapuram Palaniswamy; John Grosso; *Bristol-Myers Squibb, New Brunswick, NJ*
- ThP 221 **Quantification of Almond Skin Polyphenols by Liquid Chromatography-Mass Spectrometry;** Gregory G. Dolnikowski; Jeffrey B Blumberg; C-Y Oliver Chen Chen; Bradley W Bolling; *Tufts University, Boston, MA*
- ThP 222 **Development of an Accurate LC-MS/MS Method to Avoid Non-Specific Binding in Human Urine for a New Drug Candidate;** Wei Zhou; Yilin Feng; Harold T Smith; Francis Tse; *Novartis Institutes for Biomedical Research, East Hanover, NJ*
- ThP 223 **Highly Sensitive Simultaneous Determination of Melamine and Cyanuric Acid in Infant Formula by LC-MS/MS;** Qi Gu<sup>1</sup>; Mary Pelzer<sup>2</sup>; Xiaoyun Wu<sup>1</sup>; Xi Chen<sup>2</sup>; Xiang-yu Jiang<sup>2</sup>; <sup>1</sup>*Covance Laboratories, Shanghai, China*; <sup>2</sup>*Covance, Madison, WI*
- ThP 224 **Validation of LC-MS/MS Method for Quantitation of Oxybutynin in Human Plasma;** Sheng Wang; Jingguo Hou; Charlene Wang; Fei Liu; Bibo Xu; *Primera Analytical Solutions Corp., Princeton, NJ*
- ThP 225 **Quantification of CLR1401 in Rat Plasma by Automated Liquid-Liquid Extraction in Conjunction with Hydrophilic Interaction Liquid Chromatography-Tandem Mass Spectrometric Detection;** Hongliang Jiang<sup>1</sup>; Michelle J. Cannon<sup>1</sup>; Anatoly N. Pinchuk<sup>2</sup>; Maria Banach<sup>2</sup>; Jamey P. Weichert<sup>2</sup>; Marc A. Longino<sup>2</sup>; Bill Clarke<sup>2</sup>; Xiangyu Jiang<sup>1</sup>; <sup>1</sup>*Covance Laboratories Inc., Madison, WI*; <sup>2</sup>*Cellectar Inc., Madison, WI*
- ThP 226 **Analysis of Genotoxic Impurities in Drug Substances Using Fast Liquid Chromatography Coupled to a Triple Quadrupole Mass Spectrometer;** Siji Joseph; *Agilent Technologies, Bangalore, India*
- ThP 227 **Fast and Comprehensive Screening Method Based on UPLC-TOF MS Technique for Determination of 300 Pesticide Residues in Fruits and Vegetables;** Ondřej Lacina; Jana Hajšlová; Jana Urbanová; *Institute of Chemical Technology, Prague, Czech Republic*
- ThP 228 **Determination of Formaldehyde in Rat and Primate Whole Blood Using Derivatization, Liquid-Liquid Extraction and Gas Chromatography with Mass Spectrometric Detection;** Mark Leahy; Pam Sheaff; *Covance, Madison, WI*
- ThP 229 **Method Development of a UPLC Assay for the Bioanalysis of Ketoconazole in Human Plasma;** Guowen Liu; Heidi M. Snapp; Qin Ji; Mark E. Arnold; *Research & Development, Bristol-Myers Squibb Co., Princeton, NJ*
- ThP 230 **Investigation of Blood Samples Storage Stability Using Dry Blood Spot Technology for LC/MS Bioanalysis;** Jane Liu; Guowen Liu; Qin C Ji; Mark E Arnold; *Bristol-Myers Squibb Co., Princeton, NJ*
- ThP 231 **Fast LC/MS/MS Methods for BILR355 and BILR516 in Human Plasma – Comparisons of Fast Separation Technologies to Conventional HPLC;** Yan Mao<sup>1</sup>; Bailuo Ren<sup>2</sup>; Jeffrey Duggan<sup>3</sup>; <sup>1</sup>*Boehringer-Ingelheim Pharmaceuticals, Ridgefield, CT*; <sup>2</sup>*Boehringer Ingelheim, Ridgefield, CT*; <sup>3</sup>*Boehringer-Ingelheim, Ridgefield, CT*
- ThP 232 **Mycophenolic Acid Glucuronides Back Conversion Stability Evaluation Using High Performance Liquid Chromatography with Tandem Mass Spectrometry Detection;** Eric Morin; Brigitte Pellerin; Nadine Boudreau; Adrien Musuku; Robert Masse; *Anapharm, Quebec, QC*
- ThP 233 **Application of Biochemical Knowledge Coupled with HILIC-APCI-Tandem Mass Spectrometry for Quantitative Analysis of 2-Chlororoadenine in Rat Plasma;** Jiongwei Pan; Eric W Miele; Mark A Netsch; *Charles River, Shrewsbury, MA*
- ThP 234 **Rapid Detection of Melamine and Cyanuric Acid Using a Novel High Capacity Ion Trap Mass Spectrometer;** Leith J. Fremlin<sup>1</sup>; Matthias Pelzing<sup>1</sup>; Clive H Seymour<sup>2</sup>; <sup>1</sup>*Bruker Daltonics Division, Preston, Australia*; <sup>2</sup>*Bruker Daltonics, Auckland, New Zealand*
- ThP 235 **Method Development and Validation of Caffeine and Paraxanthine in Human Plasma;** Rachel Sun; Orlando Bravo; Brian J. Engel; *BASi, West Lafayette, IN*
- ThP 236 **Bioanalytical Method Development and Validation Using Incurred Samples—Determination of Ramipril and Ramiprilat in Human EDTA Plasma by LC-MS/MS;** Aimin Tan<sup>1</sup>; Wen Jin<sup>1</sup>; Fu Deng<sup>1</sup>; Saleh Hussain<sup>1</sup>; Adrien Musuku<sup>2</sup>; Robert Massé<sup>2</sup>; <sup>1</sup>*Anapharm (Richmond Hill), Richmond Hill, Ontario*; <sup>2</sup>*Anapharm (Québec), Québec, Canada*
- ThP 237 **A High Throughput LC-MS/MS Assay for the Quantitation of Lorcaserin Sulfamate and Lorcaserin N-carbamoyl Glucuronide in Human Urine;** Michael Ma; Weichao Chen; Yong Q. Tang; *Arena Pharmaceuticals, San Diego, CA*

## THURSDAY POSTERS

ThP 238 **Method Development and Validation for the Quantitation of Bupropion and its Metabolites in Human Plasma Using UPLC/MS/MS;** Lin Tan; Troy Voelker; Min Meng; Patrick Bennett; *Tandem Labs, Salt Lake City, UT*

ThP 239 **Quantitation of Oxycodone and Three of its Metabolites in Human Plasma Using On-Line SPE-LC-MS/MS;** Michel Wagner; Emmanuel Varesio; Gerard Hopfgartner; *University of Geneva, Geneva 4, Switzerland*

ThP 240 **Quantification of 5-Fluorouracil (5-FU) in Human Plasma Using API-5500 QTRAP Systems with 5-Chlorouracil (5-CU) as Internal Standard;** Guangchun Zhou; Kathryn Piening; Tian-Sheng Lu; John-Paul Gutierrez; Haiqing Ding; Yong-Xi Li; *Medpace Bioanalytical Laboratories, Cincinnati, OH*

ThP 241 **A Rapid LC-MS/MS Method for the Determination of Telbivudine in Human Plasma;** Dawei Zhou; Xuntian Jiang; Xinping Fang; *XenoBiotic Laboratories, Inc., Plainsboro, NJ*

**PROTEOMICS: PTM DETERMINATION (GLYCOSYLATION AND PHOSPHORYLATION), 242 - 271**

ThP 242 **Unambiguous Identification of Multiple O-Glycosylation Sites Using Electron Capture Dissociation in a Linear Radio Frequency Quadrupole Ion Trap;** Naomi Manri<sup>1</sup>; Hiroyuki Satake<sup>1</sup>; Akihito Kaneko<sup>1</sup>; Takeshi Sakamoto<sup>1</sup>; Yasuhiro Takegawa<sup>2</sup>; Ryo Hashimoto<sup>2</sup>; Yayoi Yoshimura<sup>2</sup>; Naoki Fujitani<sup>2</sup>; Shin-Ichiro Nishimura<sup>2</sup>; *<sup>1</sup>Central Res. Lab. Hitachi, Ltd., Kokubunji, Japan; <sup>2</sup>Grad. School Adv. Life Sci., Hokkaido Univ., Sapporo, Japan*

ThP 243 **Precise and Large Scale Identification of Core Fucosylated Glycoproteins by Hybrid Linear Trap/FT-ICR Mass Spectrometer;** Wei Jia<sup>1</sup>; Yan Fu<sup>2</sup>; Zhuang Lu<sup>1</sup>; Haipeng Wang<sup>2</sup>; Lina Song<sup>1</sup>; Huanhuan Han<sup>1</sup>; Jinglan Wang<sup>1</sup>; Yun Cai<sup>1</sup>; Wantao Ying<sup>1</sup>; Simin He<sup>2</sup>; Xiaohong Qian<sup>1</sup>; *<sup>1</sup>State Key Laboratory of Proteomics-BPRC-BIRM, Beijing, China; <sup>2</sup>Institute of Computing Technology, Beijing, China*

ThP 244 **Combined Top-Down and Bottom-Up Analysis of the Complement Protein C1q: Toward the Complete Characterization of its Hydroxylations and Glycosylations;** Delphine Pflieger<sup>1,2</sup>; Cédric Przybylski<sup>1,2</sup>; Florence Gonnert<sup>1,2</sup>; Thomas Lunardi<sup>3,4</sup>; Gérard Arlaud<sup>3,4</sup>; Régis Daniel<sup>1,2</sup>; *<sup>1</sup>CNRS UMR 8587, Evry, France; <sup>2</sup>Université d'Evry Val d'Essonne, EVRY, France; <sup>3</sup>CNRS UMR 5075, Université Joseph Fourier, Grenoble, France; <sup>4</sup>IBS, CEA-CNRS, Grenoble, France*

ThP 245 **Improving ETD Analysis of N, O-glycopeptides by Using the Isobaric Labeling Approach with Tandem Mass Tags (TMT);** Terry Zhang; Rosa Viner; Vlad Zabrouskov; *ThermoFisher, San Jose, CA*

ThP 246 **iTRAQ Quantitation in an Ion Trap Mass Spectrometer for Synaptic Proteomics and O-GlcNAc Site Mapping in Human Alzheimer's Disease;** John D Deuso, Jr.<sup>1</sup>; Yuliya V Skorobogatko<sup>1</sup>; Nan Guo<sup>1</sup>; Yue-song Gong<sup>1</sup>; Carol F Lippa<sup>1</sup>; Robert J Chalkley<sup>2</sup>; Keith Vosseller<sup>1</sup>; *<sup>1</sup>Drexel University College of Medicine, Philadelphia, PA; <sup>2</sup>University of California, San Francisco, CA*

ThP 247 **An Integrative HCD/CID Scoring Scheme for Improved Characterization of Site-Specific Protein N-Glycosylation;** Anoop M. Mayampurath; Yin Wu; Zaneer Segu; Milos Novotny; Yehia Mechref; HaiXu Tang; *Indiana University, Bloomington, IN*

ThP 248 **Characterization of Early Maillard Reaction Products Using MALDI Mass Spectrometry;** Helen Montgomery<sup>1</sup>; Gerald Stubiger<sup>2</sup>; Koichi Tanaka<sup>3</sup>; Omar Belgacem<sup>4</sup>; *<sup>1</sup>Shimadzu, Koichi Tanaka MS Research laboratory, Manchester, UK; <sup>2</sup>Medical University of Vienna, Vienna, Austria; <sup>3</sup>Shimadzu Corporation, Kyoto, Japan; <sup>4</sup>Shimadzu Biotech, Manchester, UK*

ThP 249 **A Quantum Increase in O-GlcNAc Modification Site Identification Using ETD Analysis on a LTQ-Orbitrap;** Robert Chalkley<sup>1</sup>; Agnes Thalhammer<sup>2</sup>; Ralf Schoepfer<sup>2</sup>; A.I. Burlingame<sup>1</sup>; *<sup>1</sup>UCSF, San Francisco, CA; <sup>2</sup>University College London, London, UK*

ThP 250 **Characterization of Antibodies by High Resolution Protein Analytical Methods;** Martin Blueggel; Susanne Mette; Andreas Wattenberg; *Protagen AG, Dortmund, Germany*

ThP 251 **The Phosphorylation of Mortalin Isoforms in Human APOE-Targeted Replacement Mice and Brain Tissue Presenting Alzheimer's Disease;** Cristina Osorio<sup>1</sup>; Maria Warren Hines<sup>2</sup>; Carol E. Parker<sup>2</sup>; Oscar Alzate<sup>3</sup>; *<sup>1</sup>University of Chapel Hill, Systems-Proteomics Core, Chapel Hill, NC; <sup>2</sup>UNC-Duke Proteomics Center, UNC-CH, Chapel Hill, NC; <sup>3</sup>Dept. of Cell and Developmental Biology, UNC-CH, Chapel Hill, NC*

ThP 252 **Characterization of Novel O-GlcNAcylation Sites on the Arabidopsis Transcription Factor RGA Using Electron Transfer Dissociation Mass Spectrometry;** Sushmit Maitra<sup>1</sup>; Namrata D. Udeshi<sup>1</sup>; Neil E. Olszewski<sup>2</sup>; Rodolfo Zentella<sup>3</sup>; Tai-ping Sun<sup>3</sup>; Jeffrey Shabanowitz<sup>1</sup>; Donald F. Hunt<sup>1</sup>; *<sup>1</sup>Dept. of Chemistry, University of Virginia, Charlottesville, VA; <sup>2</sup>Dept. of Plant Biology, University of Minnesota, St. Paul, MN; <sup>3</sup>Dept. of Biology, Duke University, Durham, NC*

ThP 253 **Elucidation of Cell Surface Glycoproteins from Cancer Stem-Like Cells;** Jintang He; Yashu Liu; Xiaolei Xie; Xing Fan; David M. Lubman; *University of Michigan, Ann Arbor, MI*

ThP 254 **Specific Detection of Glycopeptides Using Glycan Diagnostic Ions: A Key Step for the Characterisation of the Glideosome from *T. gondii*;** Agnes Hovasse<sup>1</sup>; Audrey Bednarczyk<sup>1</sup>; Sylvain Fauquenoy<sup>2</sup>; Willy Morelle<sup>2</sup>; Christian Slomianny<sup>3</sup>; Christine Schaeffer<sup>1</sup>; Alain Van Dorselaer<sup>1</sup>; Stanislas Tomavo<sup>2</sup>; *<sup>1</sup>IPHC-DSA, CNRS, Strasbourg, France; <sup>2</sup>CNRS UMR 8576, Lille, France; <sup>3</sup>INSERM U 800, Lille, France*

ThP 255 **Characterization of Phosphoproteomic Changes Induced by Oncogenic Protein, NPM-ALK, Using Affinity Purification and LC/MS;** Fang Wu; Peng Wang; Leah C. Young; Raymond Lai; Liang Li; *University of Alberta, Edmonton, Canada*

ThP 256 **First-time Identification of Four Protein Kinase A Phosphorylation Sites in Both Murine and Human Isoforms of Cardiac Myosin Binding Protein-C;** Weita Jia<sup>1</sup>; Justin F. Shaffer<sup>1,2</sup>; Samantha P. Harris<sup>1</sup>; Julie A. Leary<sup>1</sup>; *<sup>1</sup>UC Davis, Davis, CA; <sup>2</sup>UW Seattle, Seattle, WA*

ThP 257 **Mesoporous Metal Oxide Nanomaterials for Mass Spectrometry-based Phosphoproteomics;** Cory Nelson; Qingge Xu; Jeannine Szczec; Song Jin; Ying Ge; *University of Wisconsin-Madison, Madison, WI*

ThP 258 **Evaluation of Different Fragmentation Strategies for Mono- and Multi-Phosphorylated Peptides;** Melanie Schulz<sup>1</sup>; Ulrich Andrae<sup>1</sup>; Martin R. Larsen<sup>2</sup>; *<sup>1</sup>Helmholtz*

## THURSDAY POSTERS

- Zentrum Muenchen, Neuherberg, Germany; <sup>2</sup>Univ. Southern Denmark, Odense, Denmark
- ThP 259 **Identification of Phosphorylated Residues on Eukaryotic Initiation Factor 2 by Using the LTQ Orbitrap XL**; Armann Andaya; Weitao Jia; Masaaki Sokabe; John W.B. Hershey; Julie A. Leary; *UC Davis, Davis, CA*
- ThP 260 **Global Phosphopeptide Identification from Complex Mixtures**; Kimberly A. Lee; Wen Yu; Christopher Farnsworth; Leo E. Bonilla; *Amgen, Seattle, WA*
- ThP 261 **Injury and Stimulation of Aortic Endothelial Cells with Nucleotides or EGF Cause Differential EGFR Phosphorylation and Affect Recruitment of GRB2**; Amanuel Kehasse; Giuseppe Infusini; David H. Perlman; Ilene Boucher; Mark E. McComb; Vickery Trinkaus-Randall; Catherine E. Costello; *Boston University School of Medicine, Boston, MA*
- ThP 262 **Mapping Phosphoproteome Dynamics in the Cyanobacterium Circadian Cycle Using Direct LC-MS or LC-MS with On-Line Phosphopeptide Enrichment**; Bogdan A. Budnik<sup>1</sup>; Joseph S. Markson<sup>3</sup>; Yelena Margolin<sup>2</sup>; Alexander R. Ivanov<sup>2</sup>; John Neveu<sup>1</sup>; William S. Lane<sup>1</sup>; Erin K. O'Shea<sup>3</sup>; <sup>1</sup>Harvard University FAS MSPRL, Cambridge, MA; <sup>2</sup>Harvard University HSPH, Boston, MA; <sup>3</sup>Harvard University, Center for Systems Biology, Cambridge, MA
- ThP 263 **Automatic Tandem Immobilized Metal Ion Affinity Chromatography for Enhanced Phosphopeptide Enrichment**; Yu-Ni Sun<sup>1,2</sup>; Yi-Ting Wang<sup>2</sup>; Chia-Feng Tsai<sup>2</sup>; Yu-Ju Chen<sup>2</sup>; <sup>1</sup>Institute of Bioscience and Biotechnology, NTOU, Taipei City, Taiwan; <sup>2</sup>Institute of Chemistry, Academia Sinica, Taipei City, Taiwan
- ThP 264 **Analysis of Protein Phosphorylation by Using High Mass Accuracy LC-MS Data Generated from Linear Ion Trap-Orbitrap Hybrid Mass Spectrometer**; Pao-chi Liao<sup>1</sup>; Hsin-Yi Wu<sup>1</sup>; Vincent Shin-Mu Tseng<sup>2</sup>; <sup>1</sup>Department of Environmental and Occupational Health, Tainan, Taiwan; <sup>2</sup>National Cheng Kung University, Tainan, Taiwan
- ThP 265 **Combined Top-down and Bottom-up Strategy to Characterize Posttranslational Modifications in Cu/Zn Superoxide Dismutase that Contributes to Familial Amyotrophic Lateral Sclerosis**; Li Zhou<sup>1</sup>; Kyle Wilcox<sup>1</sup>; Yi Huang<sup>2</sup>; Michael Caplow<sup>1</sup>; Nikolay V. Dokholyan<sup>1</sup>; Xian Chen<sup>1</sup>; <sup>1</sup>University of North Carolina at Chapel Hill, Chapel Hill, NC; <sup>2</sup>Fudan University, Shanghai, China
- ThP 266 **Enrichment of Phosphopeptides with Cationic Magnetic Nanoparticles for Mass Spectrometric Analysis**; Cheng-Tung Chen; Yen-Peng Ho; *National Dong Hwa University, Hualien, Taiwan*
- ThP 267 **TiOx Nanostructured Coating on MALDI Plates for Capture of Phosphopeptides**; Paolo Soffientini<sup>1</sup>; Andrea Di Fonzo<sup>1</sup>; Roberta Carbone<sup>2</sup>; Simone Vinati<sup>2</sup>; Gabriela Grigorean<sup>3</sup>; <sup>1</sup>Cogentech, Milan, Italy; <sup>2</sup>Tethis s.r.l., Milan, Italy; <sup>3</sup>IFOM-IEO, Milan, Italy
- ThP 268 **Identification of Phosphorylation Sites in Caspase-7 by Mass Spectrometry**; Xin Cong; Bradford W. Gibson; Lisa Ellerby; *Buck Inst. for Age Research, Novato, CA*
- ThP 269 **Ethylenediamine Tetraacetic Acid (EDTA) Assists Phosphoproteomics**; Tatsuji Nakamura<sup>1,2</sup>; Khin Than Myint<sup>1,2</sup>; Yoshiya Oda<sup>1,2</sup>; <sup>1</sup>Eisai Co., Ltd., Tsukuba, Japan; <sup>2</sup>Crest, Saitama, Japan
- ThP 270 **Mass Spectrometric Identification of Changes in Protein Expression and Phosphorylation that**

**Regulate the Renal Response to Metabolic Acidosis**; David Goldstrohm<sup>1</sup>; Dana Gammelgaard<sup>1</sup>; Corey Broeckling<sup>2</sup>; Jessica Prenni<sup>2</sup>; Norman Curthoys<sup>1</sup>; <sup>1</sup>Colorado State University, Fort Collins, CO; <sup>2</sup>Proteomics and Metabolomics Facility, Fort Collins, CO

- ThP 271 **Nanoprobe-Based Immobilized Metal Affinity Chromatography towards Comprehensive Phosphoproteomics for Human Mesenchymal Stem Cells**; Haun-Ting Wu<sup>1</sup>; Chuan-Chih Hsu<sup>2,3</sup>; Chia-Feng Tsai<sup>3</sup>; Po-Chiao Lin<sup>1,3</sup>; Yi-Che Li<sup>2,3</sup>; Yu-Ju Chen<sup>2,3</sup>; Chun-Cheng Lin<sup>1</sup>; <sup>1</sup>National Tsing Hua University, Hsinchu, Taiwan; <sup>2</sup>Department of Chemistry National Taiwan University, Taipei, Taiwan; <sup>3</sup>Institute of Chemistry Academia Sinica, Taipei, Taiwan

<b>PEPTIDES: POST-TRANSLATIONAL MODIFICATIONS, 272 - 310</b>
--

- ThP 272 **ECD and EID of Amyloid Beta 17-28, 1-40, and Synthetic Beta-Substance P**; Nadezda P. Sargaeva<sup>1</sup>; Chunxiang Yao<sup>1</sup>; Tzu-yung Lin<sup>1</sup>; Weidong Cui<sup>1</sup>; Konstantin Aizikov<sup>1</sup>; Xiaojuan Li<sup>1</sup>; Cheng Lin<sup>1</sup>; Peter B. O'Connor<sup>2</sup>; <sup>1</sup>Boston University School of Medicine, Boston, MA; <sup>2</sup>University of Warwick, Coventry, UK
- ThP 273 **Characterization of Glyoxal and Methylglyoxal-Induced Modifications in Human Hemoglobin by NanoLC-Nanospray Ionization Tandem Mass Spectrometry**; Yu-chin Chen; Hau-Hyun Candy Chen; *National Chung Cheng University, Ming-hsiung, Taiwan*
- ThP 274 **Mass Spectrometry-Based Characterization of Protein Glutathionylspermidine Modification Using Complementary Dissociation Approaches**; Chi-Chi Chou<sup>1</sup>; Kuan-Ting Pan<sup>1</sup>; Bing-Yu Chiang<sup>2</sup>; Chun-Hung Lin<sup>2</sup>; Kay-hooi Khoo<sup>1,2</sup>; <sup>1</sup>NRPGM MS Facilities at Academia Sinica, Taipei, Taiwan; <sup>2</sup>IBC, Academia Sinica, Taipei, Taiwan
- ThP 275 **Glutamine Deamidation: Differentiation of Glutamic Acid and  $\gamma$ -Glutamic Acid in Peptides by Electron Capture Dissociation**; Xiaojuan Li<sup>1</sup>; Weidong Cui<sup>1</sup>; Chunxiang Yao<sup>1</sup>; Konstantin Aizikov<sup>1</sup>; Tzu-Yung Lin<sup>1</sup>; Nadezda P. Sargaeva<sup>1</sup>; Cheng Lin<sup>1</sup>; Peter B. O'Connor<sup>2</sup>; <sup>1</sup>Boston University School of Medicine, Boston, MA; <sup>2</sup>University of Warwick, Coventry, UK
- ThP 276 **Improving the Selectivity of Titanium Dioxide-Based Enrichment of Sulfated Peptides**; Katie Hersberger; Kristina Hakansson; *University of Michigan, Ann Arbor, MI*
- ThP 277 **SUMOylation of E1: Determination of SAE2 SUMOylated Site Using Multiple Protease Digestion and Liquid Chromatography - Mass Spectrometry**; Khue Truong; Yi-Jia Li; Roger Moore; Terry Lee; Yuan Chen; *City of Hope, Duarte, CA*
- ThP 278 **Substrate Specificity of TPST-1 and -2 Using Gastrin mutants: An MS Approach**; Peter J. Ludden<sup>1</sup>; Lieza Marie Danan<sup>2</sup>; Julie A. Leary<sup>1</sup>; <sup>1</sup>Department of Molecular and Cellular Biology, Davis, CA; <sup>2</sup>Department of Chemistry, Davis, CA
- ThP 279 **Molecular Recognition Specificity and Bioaffinity Quantification in Biopolymer Interaction of Anti-3-Nitrotyrosine Antibody revealed by SAW-ESI-MS and PLIMSTEX**; Mihaela Dragusanu<sup>1</sup>; Brindusa-Alina Petre<sup>1</sup>; Tingting Tu<sup>2</sup>; Michael Gross<sup>2</sup>; Michael Przybylski<sup>1</sup>; <sup>1</sup>University of Konstanz, Konstanz, Germany; <sup>2</sup>Washington University, St. Louis, Missouri

## THURSDAY POSTERS

- ThP 280 **Identifying Characteristic Neutral Mass Losses and Low Mass Ions for Oxidized Amino Acids;** Jessica M. Saladino<sup>1</sup>; Joshua S. Sharp<sup>2</sup>; <sup>1</sup>Univeristy of Georgia, Athens, GA; <sup>2</sup>University of Georgia, Athens, GA
- ThP 281 **Application of MALDI TOF/TOF CID Tandem Mass Spectrometry for the Rapid Identification of Unknown Disulfide-Bonded Peptides in Protein Digestions;** Dariusz Janecki; Jennifer F. Nemeth; Centocor R&D, Radnor, PA
- ThP 282 **A Novel Modification in Somatostatin Fragment (7-14) Under Oxidative Stress;** Wei Wu; Peiran Liu; Michael Ackerman; Li Tao; Reb Russell; Michael Grace; Bristol Myers Squibb Co., Pennington, NJ
- ThP 283 **Analytical Methods for Improving Identification of SUMO-Modified Peptides;** Omoruyi Osula<sup>2</sup>; Steve Swatkoski<sup>1</sup>; Robert J. Cotter<sup>3</sup>; <sup>1</sup>Department of Pharmacology, Baltimore, MD; <sup>2</sup>Johns Hopkins University, Baltimore, MD; <sup>3</sup>Middle Atlantic MS Laboratory, Baltimore, MD
- ThP 284 **Orientation of Lasso Peptide Fragmentations Under CID and ECD Conditions;** Severine Zirah<sup>1</sup>; Carlos Afonso<sup>2</sup>; Uwe Linne<sup>3</sup>; Kok-Phen Yan<sup>1</sup>; Thomas A Knappe<sup>3</sup>; Mohamed A Marahiel<sup>3</sup>; Sylvie Rebuffat<sup>1</sup>; Jean-claude Tabet<sup>2</sup>; <sup>1</sup>National Museum of Natural History / CNRS, Paris, France; <sup>2</sup>University Paris 6, Paris, France; <sup>3</sup>Philipps University, Marburg, Germany
- ThP 285 **Specific Modification of Citrullinated Peptides Facilitates their Identification;** Marlies De Ceuleneer; Kelly Tilleman; Katleen Van Steendam; Dieter Deforce; Pharmaceutical Biotechnology, Ghent University, Ghent, Belgium
- ThP 286 **Novel 4-Oxo-2(E)-Nonenal-Derived Post-Translational Modifications to Angiotensin Peptides;** Seon Hwa Lee; Takaaki Goto; Tomoyuki Oe; Tohoku University, Sendai, Japan
- ThP 287 **Sites of Alkylation by Botanical Chemoprevention Agents of Human Keap1 Bound to Cul3;** Chenqi Hu; Evan Small; Richard B. Van Breemen; University of Illinois, Chicago, IL
- ThP 288 **Elucidating Histone PTM Cross-Talk by Quantitative Mass Spectrometry;** Feixia Chu; Shannon M Eliuk; David A Maltby; Robert J Chalkley; Peter R Baker; Barbara Panning; Alma L Burlingame; UCSF, San Francisco, CA
- ThP 289 **Using Mass Spectrometry to Characterize a Novel PTM in the Escherichia Coli Ribosomal Protein S12;** Michael Brad Strader<sup>1</sup>; Suwako Fujigaki<sup>1</sup>; Cai Yun Chen<sup>1</sup>; Nina Costantino<sup>3</sup>; Anthony J. Makusky<sup>1</sup>; W. Judson Hervy IV<sup>2</sup>; Donald L. Court<sup>3</sup>; Sanford P. Markey<sup>1</sup>; Jeffrey A. Kowalak<sup>1</sup>; <sup>1</sup>NIMH/NIH, Bethesda, MD; <sup>2</sup>UT-ORNL, Oak Ridge, TN; <sup>3</sup>NCI/FCRDC, Fredrick, Maryland
- ThP 290 **Histone Isoform Mapping Using Data-Dependent MS/MS of Deutero-Acetylated Tryptic Fragments;** Robert J. Cotter; Dwella Moton Nelson; Katherine Wilson; Rocio Montes de Oca; Johns Hopkins School of Medicine, Baltimore, MD
- ThP 291 **Targeted Quantitative Analysis of Acetylated Histone H4 sites K5, K8, K12, K16;** Marc Gentzel<sup>1</sup>; Asifa Akhtar<sup>2</sup>; <sup>1</sup>MPI-CBG, Dresden, Germany; <sup>2</sup>EMBL, Heidelberg, Germany
- ThP 292 **"Bottom-Up" Approaches to Characterizing Novel Post-Translational Modifications on Histones Using an LTQ-OrbitrapXL-ETD;** Dwella Moton Nelson; Rocio Montes de Oca; Katherine Wilson; Robert J. Cotter; Johns Hopkins University School of Medicine, Baltimore, MD
- ThP 293 **MS Analysis of Cysteine Modifications Caused by Sample Preparation;** Zhouxi Wang; Tomas Rejtar; Zhaohui Zhou; Barry L. Karger; Northeastern University, Boston, MA
- ThP 294 **Minimizing Post Translation Modification Artifacts in Biotherapeutic Proteins;** Ying-qing Yu; Martin Gilar; John Gebler; Joomi Ahn; Waters Corporation, Milford, MA
- ThP 295 **Comprehensive Analysis of the Arabidopsis Thaliana Leaf and Chloroplast Proteome: Proteotypic Library, Peptide Modifications, and Amino Acid Substitutions;** Boris Zybaylov; Qi Sun; Klaas van Wijk; Cornell University, Cornell University, Ithaca, NY
- ThP 296 **Analysis of Post-Translationally Modified Peptides Using Synthetic Reference Standards and Tandem Mass Spectra Matching;** Hannes Hahne<sup>1</sup>; Simone M Lemeer<sup>1</sup>; Florian Richter<sup>4</sup>; Mikhail Savitski<sup>2</sup>; Martin Zeller<sup>3</sup>; Markus Boesche<sup>2</sup>; Thomas Moehring<sup>3</sup>; Marcus Bantscheff<sup>2</sup>; Henning Urlaub<sup>4</sup>; Bernhard Kuster<sup>1</sup>; <sup>1</sup>Technical University Munich, Freising, Germany; <sup>2</sup>Cellzome AG, Heidelberg, Germany; <sup>3</sup>Thermo Fisher Scientific, Bremen, Germany; <sup>4</sup>MPI Biophysical Chemistry, Göttingen, Germany
- ThP 297 **Comparison of ETD-Trap and Q-TOF for Analysis of Post-Translational Modifications;** Vaibhav Chumbalkar<sup>1</sup>; Vadiraja Bhat<sup>2</sup>; Khatri latha<sup>1</sup>; Rebecca Maywald<sup>1</sup>; Oliver Bogler<sup>1</sup>; <sup>1</sup>UT MD Anderson Cancer Center, Houston, TX; <sup>2</sup>Agilent Technologies, Wilmington, DE
- ThP 298 **Beyond Monoisotopic Mass: Detection of Peptide PTMs by Isotope Cluster Analysis;** Jonathan A Epstein<sup>1</sup>; Matthew Olson<sup>2</sup>; Kenneth Parker<sup>3</sup>; Peter S. Backlund<sup>1</sup>; Marvin Vestal<sup>3</sup>; Alfred L. Yergey<sup>1</sup>; <sup>1</sup>NIH, Bethesda, MD; <sup>2</sup>JHMI, Baltimore, MD; <sup>3</sup>Virgin Instruments Corp., Sudbury, MA
- ThP 299 **High Energy Collision Dissociation of Glycopeptides Aiding in Identifying Glycosylation Sites in Proteins;** Zaneer Segu<sup>1,2</sup>; Yehia Mechref<sup>1,2</sup>; <sup>1</sup>METACyt Biochemical Analysis Center, Bloomington, IN; <sup>2</sup>Dept of Chemistry, Indiana University, Bloomington, IN
- ThP 300 **Advances and Hurdles in O-linked Glycopeptide Analysis;** Zsuzsanna Darula<sup>2</sup>; Katalin F. Medzihradszky<sup>1,2</sup>; <sup>1</sup>UCSF, San Francisco, CA; <sup>2</sup>Biological Research Center, HAS, Szeged, Hungary
- ThP 301 **Free Dinner: Doubling the Numbers of Identified Phosphopeptides by Converting MS3 Spectra into MS2 Mimics;** Wiebke A Timm<sup>1</sup>; Nurhan Ozlu<sup>2</sup>; Judith Steen<sup>1</sup>; Hanno Steen<sup>1</sup>; <sup>1</sup>Harvard Medical School/Children's Hospital Boston, Boston, MA; <sup>2</sup>Harvard Medical School, Boston, MA
- ThP 302 **Phosphoproteomic Characterization of Insulin Resistance in T2D Using iTRAQ and SIMAC Combined with Multistage Activation and Higher-Energy C-Trap Dissociation MS/MS;** Tine E. Thingholm; Henning Beck-Nielsen; Michael Gaster; Ole N. Jensen; Univ. of Southern Denmark, Odense, Denmark
- ThP 303 **De-Coupling the Identification and Relative Quantitation of Phosphopeptides Using a Real-Time Combination CID and HCD\* Using an LTQ-Orbitrap XL;** Andrew JK Williamson<sup>2</sup>; Yvonne Connolly<sup>1</sup>; Duncan L Smith<sup>1</sup>; <sup>1</sup>Paterson Institute for

## THURSDAY POSTERS

- Cancer Research, Manchester, UK; <sup>2</sup>SCALPL, University of Manchester, Manchester, UK
- ThP 304 **A Chemical Derivatization, Results-Driven Mass Spectrometry Workflow for Sensitive Identification and Relative Quantification of Tyrosine Phosphorylation Sites;** John R Griffiths; Anthony D Whetton; *University of Manchester, Manchester, United Kingdom*
- ThP 305 **MS Characterization of Differentially Modified Isoforms of the Homer2 Scaffolding Protein in Brain;** Rob Helton<sup>1</sup>; Karen K Szumlinski<sup>1</sup>; Christine C Wu<sup>2</sup>; *<sup>1</sup>University of California Santa Barbara, Santa Barbara, CA; <sup>2</sup>University of Colorado School of Medicine, Aurora, CO*
- ThP 306 **Assessment of Phosphopeptide Enrichment/Precipitation Methods for LC-MS/MS Based Phosphoproteomic Analysis of Plant Tissue;** Juanying Ye<sup>1</sup>; Elena Rudashevskaya<sup>2</sup>; Thomas Aarup Hansen<sup>1</sup>; Anja T. Fuglsang<sup>2</sup>; Michael G. Palmgren<sup>2</sup>; Ole N. Jensen<sup>1</sup>; *<sup>1</sup>University of Southern Denmark, Odense, Denmark; <sup>2</sup>University of Copenhagen, Copenhagen, Denmark*
- ThP 307 **Novel Approach to Phosphopeptide Profiling Based on Combination of Liquid Chromatography at Critical Conditions and Mass Spectrometry;** Tatiana Yu. Perlova<sup>1</sup>; Yelena Margolin<sup>4</sup>; Irina A. Tarasova<sup>1</sup>; Anton A. Goloborodko<sup>1</sup>; Alexander V. Gorshkov<sup>2</sup>; Eugene Moskovets<sup>3</sup>; Alexander R. Ivanov<sup>4</sup>; Mikhail V. Gorshkov<sup>1</sup>; *<sup>1</sup>Institute of Energy Problems of Chemical Physics, Moscow, Russia; <sup>2</sup>N. N. Semenov's Institute of Chemical Physics, Moscow, Russia; <sup>3</sup>MassTech Inc., Columbia, MD; <sup>4</sup>Harvard School of Public Health, Boston, MA*
- ThP 308 **Selective Enrichment and Quantitative Analysis of the Endogenous Serum Phosphorylated Peptides for Potential Disease Biomarker Discovery;** Lianghai Hu<sup>1</sup>; Houjiang Zhou<sup>1</sup>; Lihai Guo<sup>2</sup>; Shutao Sun<sup>1</sup>; Mingliang Ye<sup>1</sup>; Hanfa Zou<sup>1</sup>; *<sup>1</sup>Dalian Chemical Physics Institute, the CAS, Dalian, Liaoning; <sup>2</sup>ASC, Applied Biosystems, Shanghai, China*
- ThP 309 **Mass Spectrometric Determination of Disulfide Linkages and Glycosylation Sites in Recombinant Therapeutic Proteins Using On-line LC-MS with Electron Transfer Dissociation;** Shiaw-lin Wu<sup>1</sup>; Zhiqi Hao<sup>2</sup>; Andreas F Huhmer<sup>2</sup>; Haitao Jiang<sup>1</sup>; William S. Hancock<sup>1</sup>; Barry L. Karger<sup>1</sup>; *<sup>1</sup>Northeastern University, Boston, MA; <sup>2</sup>Thermo Fisher Scientific, San Jose, CA*
- ThP 310 **Evaluation of the Low-Specificity Protease Elastase for the Phosphoproteome Analysis;** Bin Wang; Rainer Malik; Erich Nigg; Roman Körner; *Max-Planck-Institute of Biochemistry, Munich, Germany*
- ThP 311 **Molecular Imaging of Marine Algal Metabolites by Reactive DESI MS: Towards a Better Understanding of Aquatic Antifungal Defense System;** Leonard Nyadong; Edward G. Hohenstein; Amy L. Lane; Asiri Galhena; Mark Kwasnik; Mark E. Hay; Julia Kubanek; David Sherrill; Facundo Fernandez; *Georgia Institute of Technology, Atlanta, GA*
- ThP 312 **Solvent Gradient Used to Vary Ionization Selectivity in Transmission Mode Desorption Electrospray Ionization;** Kevin D. Quinn; Troy Wood; *University at Buffalo, Buffalo, NY*
- ThP 313 **Imaging Desorption Electrospray Ionization-Mass Spectrometry and Direct Analysis in Real Time Mass-Spectrometry for the Integral Investigation of Counterfeit Antimalarial Pharmaceuticals;** Asiri Galhena; Leonard Nyadong; R. Mitchell Parry; May D Wang; Facundo Fernandez; *Georgia Institute of Technology, Atlanta, GA*
- ThP 314 **Secondary Electrospray Ionization Detection of Explosive Vapors Below 0.02 ppt on a Triple Quadrupole with an Atmospheric Pressure Source;** Erica Mesonero<sup>2</sup>; Juan A. Sillero<sup>2</sup>; Marta Hernandez<sup>3</sup>; Juan Fernandez de la Mora<sup>1</sup>; *<sup>1</sup>Yale University - Mechanical Engineering Department, New Haven, CT; <sup>2</sup>SEADM, Boecillo, Valladolid, Spain; <sup>3</sup>CARTIF, Boecillo, Valladolid, Spain*
- ThP 315 **Analysis of Non-ionic Surfactants on the Surface of Coated Acrylic Paints by Desorption Electrospray Ionization Mass Spectrometry;** Chengli Zu; Greg Meyers; Bruce Bell; Melinda Keefe; *Dow Chemical Company, Midland, MI*
- ThP 316 **DART-MS/MS Analysis of Foamed PVC Jar Lids;** Luke K. Ackerman<sup>1</sup>; Gregory O. Noonan<sup>1</sup>; Timothy H. Begley<sup>1</sup>; Catherine Simoneau<sup>2</sup>; Michele Suman<sup>3</sup>; *<sup>1</sup>US-FDA Center for Food Safety, College Park, MD; <sup>2</sup>EU Comm., Inst. for Health & Consumer Protection, Ispra, Italy; <sup>3</sup>Barilla G.R. F.Ili SpA, Parma, Italy*
- ThP 317 **Continuously Monitoring the States of nano-TiO<sub>2</sub> Catalyzed Photo Reactions with Liquid Electrospray-assisted Laser Desorption Ionization Mass Spectrometry;** Cheng-Hui Yuan; Hsin-Hui Liang; Jentaie Shiea; *National Sun Yat-Sen Univ., Kaohsiung, Taiwan*
- ThP 318 **Transmission-Mode DART TOF MS for the Semi-Quantitative Analysis of Pyrethroid Pesticide-Treated Bednets;** Jose J. Perez<sup>1</sup>; Michael D. Green<sup>2</sup>; Christina Y. Hampton<sup>1</sup>; Facundo M. Fernandez<sup>1</sup>; *<sup>1</sup>Georgia Institute of Technology, Atlanta, GA; <sup>2</sup>Centers for Disease Control and Prevention, Atlanta, GA*
- ThP 319 **Preparation and Rapid Analysis of Dry Powders with an Ambient Pressure Desorption Ionization Equipped Mass Spectrometer;** Brian D. Musselman; Elizabeth Crawford; Jordan Krechmer; *IonSense, Inc., Saugus, MA*
- ThP 320 **Instant Quality Control of Biodiesel Made from Used Frying Oil by Easy Ambient Sonic-Spray Ionization Mass Spectrometry;** Rosana Maria Alberici<sup>1</sup>; Vanderlea de Souza<sup>2</sup>; Gilberto Fernandes de Sá<sup>3</sup>; Romeu Jose Daroda<sup>2</sup>; Marcos Nogueira Eberlin<sup>1</sup>; *<sup>1</sup>ThoMSon Mass Spectrometry Laboratory-UNICAMP, Campinas, SP, Brazil; <sup>2</sup>National Institute of Metrology-INMETRO, Duque de Caxias, RJ, BRAZIL; <sup>3</sup>Department of Fundamental Chemistry, UFPE, Recife, PE, Brazil*
- ThP 321 **Development of a SPE/DART Assay for Rapid Narcotics Screening in Urine;** Thurman Allsup<sup>1</sup>; Brian D. Musselman<sup>2</sup>; Kimberly Gamble<sup>3</sup>; Ken Lewis<sup>1</sup>; *<sup>1</sup>OpAns, LLC, Durham, NC; <sup>2</sup>IonSense, Inc., Saugus, MA; <sup>3</sup>MicroLiter Analytical Supplies, Inc., Suwanee, GA*
- ThP 322 **The Use of Recently Innovated Ambient Mass Spectrometry for Direct Determination of Pharmaceutical Compounds in Biological Matrices;** Hang Zeng; *University of the Sciences in Philadelphia, Philadelphia, PA*
- ThP 323 **Electrospray-Assisted Laser Desorption Ionization (ELDI) with an Infrared OPO Laser for**

**DIRECT IONIZATION (DESI, DART AND ASAP),  
311 - 332**



## THURSDAY POSTERS

- Characterization of Peptides and Proteins;** Mark Little<sup>1</sup>; Ivory Peng<sup>2</sup>; Rachel O. Loo<sup>2</sup>; Eli Margalith<sup>1</sup>; Joseph A. Loo<sup>2</sup>; <sup>1</sup>Opotek, Inc., Carlsbad, CA; <sup>2</sup>UCLA, Los Angeles, CA
- ThP 324 **Elucidation of the MALDESI Ionization Mechanism Using Deuterated Solvents, Remote Analyte Sampling Transport and Ionization Relay Coupled with FT-ICR-Mass Spectrometry;** Jason S. Sampson; R. Brent Dixon; David C. Muddiman; *North Carolina State University, Raleigh, NC*
- ThP 325 **Investigation of DESI Desorption on Biomolecular Surfaces;** Felicia M. Green<sup>1</sup>; Tara L. Salter<sup>1</sup>; David G. Castner<sup>2</sup>; Lara J. Gamble<sup>2</sup>; Ian S. Gilmore<sup>1</sup>; Peter Stokes<sup>3</sup>; Gavin O'Connor<sup>3</sup>; <sup>1</sup>National Physical Laboratory, Teddington, UK; <sup>2</sup>NESAC/BIO Washington University, Seattle, Washington; <sup>3</sup>LGC Limited, Teddington, UK
- ThP 326 **Development of a "Greener" Ionization Source for Ambient Desorption Ionization with Nitrogen as the Carrier Gas;** Joseph Tice<sup>1</sup>; Douglas Simmons<sup>2</sup>; Michael Festa<sup>1</sup>; James A. Hill<sup>3</sup>; Brian D. Musselman<sup>1</sup>; <sup>1</sup>IonSense, Inc., Saugus, MA; <sup>2</sup>IonSense Inc., Saugus, MA; <sup>3</sup>James A. Hill Instruments, Arlington, MA
- ThP 327 **Mass Spectrometry Guided Surgery by Direct Coupling of Electrosurgical Methods with On-line Mass Spectrometric Analysis;** Zoltan Takats<sup>1,2</sup>; Katalin Albrecht<sup>1</sup>; Reka Skoumal<sup>1</sup>; Miklos Toth<sup>1</sup>; Tamas Szaniszló<sup>1</sup>; Karl-Christian Schaefer<sup>2</sup>; Julia Denes<sup>1</sup>; <sup>1</sup>Semmelweis University, Budapest, Hungary; <sup>2</sup>Justus-Liebig University, Giessen, Germany
- ThP 328 **On-Line Infrared Matrix-Assisted Laser Desorption Electrospray Ionization Mass Spectrometry;** Fan Huang; Kermit K. Murray; *Louisiana State University, Baton Rouge, LA*
- ThP 329 **Rapid Characterization of the Active Ingredients in Over-the-Counter Medicines by Electrospray-assisted Laser Desorption Ionization (ELDI) Mass Spectrometry;** Yi-Yzu Cho; Min-Zong Huang; Jentaie Shiea; *National Sun Yat-Sen Univ., Kaohsiung, Taiwan*
- ThP 330 **Novel Applications of DART (Direct Analysis in Real Time) in Pharmaceutical Industry;** Guilong (Charles) Cheng; *Pfizer, Inc., Groton, CT*
- ThP 331 **Off-Line Desorption Electrospray Ionization (Off-Line DESI) for Sample Collection: A Novel Surface Sampling and Preconcentration Technique;** Afrand Kamali; Semere Bairu; Shashank Jain; Andre Venter; *Western Michigan University, Kalamazoo, MI*
- ThP 332 **New Sampling Methods for the Direct Analysis in Real Time (DART) Ion Source;** Robert B. Cody; John Dane; *JEOL USA, Inc., Peabody, MA*
- INSTRUMENTATION: NEW CONCEPTS, 333 - 353**
- ThP 333 **Ion Optic Design for Drift Tube Soft-landing;** David Birdwell; Stephen Davila; Guido F. Verbeck; *University of North Texas, Denton, TX*
- ThP 334 **Mass Selective Soft and Reactively Landed Ion Studies of Nucleobases and Nucleosides on Plasma Pre-treated Metal Surfaces;** Karl E. Jackson; W. Tim Elam; Frantisek Turecek; *University of Washington, Seattle, WA*
- ThP 335 **Atmospheric Pressure Ion Soft Landing and Surface Patterning;** Abraham K Badu Tawiah<sup>1</sup>; Chunping Wu<sup>1</sup>; Hao Chen<sup>2</sup>; R. Graham Cooks<sup>1</sup>; <sup>1</sup>Purdue University, West Layette, IN; <sup>2</sup>Ohio University, Athens, OH
- ThP 336 **In situ SIMS Analysis and Reactions of Surfaces Prepared by Ion Soft-Landing;** Jobin Cyriac; Liang Gao; Guangtao Li; R. Graham Cooks; *Purdue University, West Lafayette, IN*
- ThP 337 **In situ Characterization of Surfaces Following Soft Landing of Complex Ions;** Qichi Hu<sup>1</sup>; Peng Wang<sup>2</sup>; Omar Hadjar<sup>3</sup>; Julia Laskin<sup>1</sup>; <sup>1</sup>Pacific NW National Laboratory, Richland, WA; <sup>2</sup>Pacific Northwest National Laboratory, Billerica, MA; <sup>3</sup>O.I. Analytical, Pelham, AL
- ThP 338 **Characterizaion and Isolation of Specifically Selected Cu Nanoclusters Using Drift Tube Soft Landing;** Stephen Davila; Guido F. Verbeck; *University of North Texas, Denton, TX*
- ThP 339 **Charge Retention and Neutralization on Various Surfaces during Ion Soft Landing;** Guangtao Li; Liang Gao; Jobin Cyriac; R. Graham Cooks; *Purdue University, Westfield, IN*
- ThP 340 **A Fast and Transportable Gas Chromatograph – Mass Spectrometer with Double Focusing Characteristic;** Gottfried Kibelka; Omar Hadjar; Scott Kassan; Scott Shill; Chad Cameron; *O.I. Analytical, Pelham, AL*
- ThP 341 **On-Line Reactors Enabling Fast Gas Chromatography (GC) and Comprehensive 2D GC (GCxGC) Coupled to Isotope Ratio Mass Spectrometry (IRMS);** Herbert Tobias; J Thomas Brenna; *Cornell University, Ithaca, NY*
- ThP 342 **Comparison in Tandem Mass Spectrometry of Phenylthiocarbamoyl Peptides;** Pamela Ann Diego; Xudong Yao; Hui Jiang; *University of Connecticut, Storrs Mansfield, CT*
- ThP 343 **Development of Novel Laser Post-Ionization Mass Spectrometer with Ultra-High Sensitivity and Ultra-Trace Sampling;** Morio Ishihara<sup>1</sup>; Kousuke Kumondai<sup>1</sup>; Ryo Mibuka<sup>2</sup>; Kiichiro Uchino<sup>2</sup>; Hisayoshi Yurimoto<sup>3</sup>; <sup>1</sup>Osaka Univ., Toyonaka, Japan; <sup>2</sup>Kyushu University, Japan, Kasuga, Japan; <sup>3</sup>Hokkaido University, Sapporo, Japan
- ThP 344 **Ultra fast Proton-Transfer-Reaction Mass Spectrometry - Development of a Novel Drift Tube Design;** Alfons Jordan<sup>1</sup>; Stefan Haidacher<sup>1</sup>; Gernot Hanel<sup>1</sup>; Eugen Hartungen<sup>1</sup>; Hans Seehauser<sup>1</sup>; Ralf Schottkowsky<sup>1</sup>; Philipp Sulzer<sup>1</sup>; Lukas Maerk<sup>1</sup>; Tilmann Märk<sup>1,2</sup>; <sup>1</sup>Ionicon Analytik, Innsbruck, Austria; <sup>2</sup>Universität Innsbruck, Innsbruck, Austria
- ThP 345 **High Capacity Ion Trap Coupled to a Time of Flight MS for Comprehensive No-Loss MS/MS of All Stored Ions;** Sunnie Myung<sup>1</sup>; Andrew N. Kruchinsky<sup>2</sup>; David Fenyo<sup>1</sup>; Julio Cesar Padovan<sup>1</sup>; Herbert Cohen<sup>1</sup>; Brian Chait<sup>1</sup>; <sup>1</sup>The Rockefeller University, New York, NY; <sup>2</sup>Department of Pharmaceutical Chemistry at UCSF, San Francisco, CA
- ThP 346 **The Performance of a MALDI LTQ Orbitrap and its Application to the Study of Protein Complexes;** Yang Luo; Tuo Li; Fang Yu; A. Chase Palish; Tal Kramer; Ileana M. Cristea; *Princeton University, Princeton, NJ*
- ThP 347 **An In-Capillary FAIMS Device for High Transmission and Instrument Versatility;** Alessandra Ferzoco<sup>1</sup>; Mark Ridgeway<sup>1</sup>; Desmond Kaplan<sup>2</sup>; Melvin A. Park<sup>2</sup>; Gary L. Glush<sup>1</sup>; <sup>1</sup>University of North Carolina, Chapel Hill, NC; <sup>2</sup>Bruker Daltonics, Inc., Billerica, MA
- ThP 348 **Planar High Field Asymmetric Ion Mobility Spectrometry Device Utilizing Temperature Control of Carrier Gas and Electrodes;** Mark Ridgeway<sup>1</sup>; Philip M Remes<sup>2</sup>; Gary L. Glush<sup>1</sup>; <sup>1</sup>University of North

## THURSDAY POSTERS

- Carolina, Chapel Hill, NC; <sup>2</sup>Thermo Fisher Scientific, San Jose, CA
- ThP 349 **Origin of Higher Order Overtone Peaks in Overtone Mobility Spectrometry;** Ruwan Kurulugama; Stephen Valentine; David E. Clemmer; *Indiana University, Bloomington, IN*
- ThP 350 **An FTICR – Ion Trap Cluster;** Magnus Palmblad; Yuri E. M. Van Der Burgt; Hans Dalebout; André M. Deelder; *Leiden University Medical Ce, Leiden, Netherlands*
- ThP 351 **New Ion Source for Inductively Coupled Plasma Mass Spectrometry with Low Argon Consumption (UMAS Ion Source);** Wolfgang Buscher<sup>1</sup>; Thorben Pfeifer<sup>1</sup>; Michael Sperling<sup>1,2</sup>; <sup>1</sup>University of Muenster, Muenster, Germany; <sup>2</sup>EVISA Europ. Virtual Inst. for Speciation Analysis, Muenster, Germany
- ThP 352 **Temperature Dependent Energy Distributions of Sputtered Coronene Molecules Induced by Energetic Atomic and Cluster Projectiles;** Daniel A. Brenes; David G. Willingham; Nicholas Winograd; *Penn State University, University Park, PA*
- ThP 353 **Direct Analysis of Biological Tissue by Electrospray Droplet Impact / Secondary Ion Mass Spectrometry;** Daiki Asakawa; LeeChuin Chen; Kenzo Hiraoka; *University of Yamanashi, Kofu, Japan*

## LC/MS SAMPLE PREPARATION, 354 - 369

- ThP 354 **Increased Bioanalytical Throughput Using Selective Phospholipid Depletion;** Craig Aurand<sup>1</sup>; An Trinh<sup>2</sup>; Hillel K. Brandes<sup>1</sup>; David S. Bell<sup>1</sup>; Michael Ye<sup>1</sup>; <sup>1</sup>Supelco/ Sigma Aldrich, Bellefonte, PA; <sup>2</sup>Supelco, Bellefonte, PA
- ThP 355 **Improved Bioanalysis of Antidepressants from Plasma Using Non-Drip Filtration Plates;** Eugene Chang; David Jones; Ritu Arora; *Varian Inc., Lake Forest, CA*
- ThP 356 **A Simple Way to Remove Phospholipids from Bioanalytical Samples;** Ben Yong<sup>1</sup>; William Hudson<sup>1</sup>; David Jones<sup>2</sup>; Yung-Lin Chen<sup>2</sup>; <sup>1</sup>Varian, Inc., Lake Forest, CA; <sup>2</sup>Varian Inc., Lake Forest, CA
- ThP 357 **Phospholipid Removal: A Comparison between Traditional Liquid-Liquid Extraction (LLE) and Supported Liquid Extraction (SLE) Using LC-MS/MS Analysis;** Lee Williams<sup>1</sup>; Mike Lindemuth<sup>2</sup>; Rhys Jones<sup>1</sup>; Claire Desbrow<sup>1</sup>; Joanna Caulfield<sup>1</sup>; Gary Dowthwaite<sup>1</sup>; Richard Calverley<sup>1</sup>; Steve Jordan<sup>1</sup>; Helen Lodder<sup>1</sup>; <sup>1</sup>Biotage GB Limited, Cardiff, UK; <sup>2</sup>Biotage, Charlottesville, VA
- ThP 358 **The Use of Liquid-Liquid Extraction along with Colloidal Silica and Polyvalent Cations to Remove Phospholipids that Produce ESI Matrix Effects;** Dale Schoener; Stan Murakami; *Alta Analytical Laboratory, El Dorado Hills, CA*
- ThP 359 **Biological Sample Phospholipids Clean Up: A Comparison of Sample Preparation Techniques;** Zheng Ouyang<sup>1</sup>; Steven T. Wu<sup>2</sup>; Mohammed Jemal<sup>2</sup>; <sup>1</sup>Bristol-Myers Squibb Company, Princeton, NJ; <sup>2</sup>Bristol-Myers Squibb, Princeton, NJ
- ThP 360 **Determination of Topiramate in Human Plasma Using Negative Ion ESI-LC/MS/MS;** Song Zhao; Moucun Yuan; William R. Mylott; Bruce Hidy; Rand Jenkins; *PPD, Richmond, VA*
- ThP 361 **Isolation of Digoxin from Human Plasma Using Supported Liquid Extraction (SLE) for Analysis by ESI-LC/MS/MS;** Moucun Yuan; Laura Nakovich; William R. Mylott; Bruce Hidy; Rand Jenkins; *PPD, Richmond, VA*

- ThP 362 **The Retention Behavior of Phospholipids Leading to the Elimination of Matrix Effect in LC-MS/MS Using Reverse-Phase Silica SPE;** Mathieu Lahaie; Milton Furtado; Fabio Garofolo; *Algorithme Pharma Inc., Laval (Montreal), Quebec, Canada*
- ThP 363 **Efficiency, Reproducibility, Accuracy and Linearity Evaluation of Filtration Plates during Protein Precipitation to Remove Phospholipids in Bioanalysis by LC-MS/MS;** Catherine Dicaire; Milton Furtado; Fabio Garofolo; *Algorithme Pharma Inc., Laval (Montreal), Quebec, Canada*
- ThP 364 **Selection of Buffer Additives for Liquid-Liquid Extraction (LLE) Procedure to Remove Matrix Effect Due to Phospholipids in LC-MS/MS;** Melanie Bergeron; Mathieu Lahaie; Milton Furtado; Fabio Garofolo; *Algorithme Pharma Inc., Laval (Montreal), Quebec, Canada*
- ThP 365 **Method Development Strategies for Improving ISR Reproducibility - Use of Surfactants for Success;** Daria L. Wentzel; Roger Demers; *Tandem Labs, West Trenton, NJ*
- ThP 366 **Potential Ion Suppression from the Individual Components of Cannula Locking Solutions used in Rodent Studies;** Daniel G. Morgan<sup>1</sup>; Sarah J. Taylor<sup>1</sup>; Marc Browning<sup>1</sup>; Timothy Olah<sup>2</sup>; <sup>1</sup>Bristol-Myers Squibb, Wallingford, CT; <sup>2</sup>Bristol-Myers Squibb Company, Lawrenceville, NJ
- ThP 367 **An Accurate and Specific LC-MS/MS Method for the Quantitative Determination of a Drug Candidate in Monkey Whole Blood and Tissues;** Wei Zhou; Shaoyong Li; Harold T Smith; Francis Tse; *Novartis Institutes for Biomedical Research, East Hanover, NJ*
- ThP 368 **Maximizing Workflow Efficiency and Investigation of Drug Candidate Freeze/Thaw Recovery in Cerebrospinal Fluid After Addition of Plasma or Other Additives;** Gary E. Adamson<sup>2</sup>; Debra Mcloughlin<sup>3</sup>; James Monahan<sup>1</sup>; William Bart Emary<sup>4</sup>; <sup>1</sup>Merck Research Laboratories, West Point, PA; <sup>2</sup>Merck and Co., West Point, PA; <sup>3</sup>Merck & Co., West Point, PA; <sup>4</sup>Merck Research Labs, West Point, PA
- ThP 369 **Evaluation of Bead-Based Homogenization Technique and Comparison with a Focused Acoustic Energy Wave Technique (Covaris);** Debra Liao; Susan Chen; Ji Zhang; Jing-tao Wu; Mark Qian; *Millennium: The Takeda Oncology Company, Cambridge, MA*

## MICROBIAL ANALYSIS, 370 - 392

- ThP 370 **Interaction of Bacteria and Ion-Exchange Magnetic Nanoparticles and its Potential in Separation for MALDI-MS Identification of Bacteria in Water;** Ying Liu; Shuping Li; Zhongxian Guo; Zhaoguang Yang; *Centre for Advanced Water Technology, Singapore, Singapore*
- ThP 371 **Diamond Nanoparticles for MALDI-TOF Mass Analysis of Bacterial Surface and Secretion Proteins;** Chun-Wei Chen<sup>1</sup>; Kai-Chih Chang<sup>2,3</sup>; Anren Hu<sup>2,3</sup>; Yen-peng Ho<sup>1</sup>; Wen-ping Peng<sup>1</sup>; <sup>1</sup>National Dong Hwa University, Shoufeng, Hualien, Taiwan; <sup>2</sup>Tzu Chi University, Hualien, Taiwan; <sup>3</sup>Buddhist Tzu Chi General Hospital, Hualien, Taiwan
- ThP 372 **Combinatorial Metaproteomics and Metagenomics to Analyze Complex Bacterial Communities *in situ*;** Nathanael Delmote<sup>1</sup>; Claudia Knierl<sup>1</sup>; Samuel Chaffron<sup>2</sup>; Bernd Roschitzki<sup>3</sup>; Gerd Innerebner<sup>1</sup>; Christian von Mering<sup>2</sup>; Julia Vorholt<sup>1</sup>; <sup>1</sup>ETHZ, Zurich,

## THURSDAY POSTERS

- Switzerland; <sup>2</sup>University of Zurich, Zurich, Switzerland;  
<sup>3</sup>Functional Genomics Center, Zurich, Switzerland
- ThP 373 **Proteome Analysis of Iron-Corrosive Archaeon *Methanococcus maripaludis* OS7**; Hanako Ataku; Miyako Mise; Keiko Nishijima; Jun Yamazaki; Jun Fukuda; Kazumi Sasaki; Syuji Yamazaki; Nobuyuki Fujita; Naofumi Ito; Satoshi Tanikawa; Hirohito Tsurumaru; Shigeaki Harayama; *National Institute of Technology and Evaluation, Shibuya, Japan*
- ThP 374 **Investigating Potential Protein Functions of Small Unknown Reading Frames Secreted by Individual and Co-Cultured Thermophiles**; Genna L. Andrews; Derrick L. Lewis; Sara E. Blumer-Schuetz; Jaspreet Nohy; Robert M. Kelly; Timothy S. Collier; David C. Muddiman; *North Carolina State University, Raleigh, NC*
- ThP 375 **Analysis of Botulinum Neurotoxin G Using Endopep-MS and Toxin Proteomics**; Rebecca R. Terilli<sup>1</sup>; Hercules Moura<sup>5</sup>; Suzanne Kalb<sup>2</sup>; Adrian R. Woolfitt<sup>3</sup>; Jon Rees<sup>3</sup>; Maribel Gallegos-Candela<sup>3</sup>; David M. Schieltz<sup>4</sup>; John R. Barr<sup>3</sup>; <sup>1</sup>Center for Disease Control and Prevention, Atlanta, GA; <sup>2</sup>Centers for Disease Control and Prevention, Atlanta, GA; <sup>3</sup>CDC, Atlanta, GA; <sup>4</sup>Centers for Disease Control, Atlanta, GA; <sup>5</sup>Centers for Disease Control and Prevention, Atlanta, GA
- ThP 376 **Comprehensive Mass Spectrometric Analysis of Multiple Pertussis Toxins Reveals Amino Acid Coverage Homogeneity and Differential Subunit Expression**; Yulanda M. Williamson; Hercules Moura; David M. Schieltz; Jon Rees; Adrian R. Woolfitt; Maria L. Tondella; Edwin Ades; Jacqueline S. Sampson; George Carlone; John R. Barr; *Centers for Disease Control and Prevention, Chamblee, GA*
- ThP 377 **Identification of H7 Antigen of Escherichia Coli with Liquid Chromatography Tandem Mass Spectrometry (LC-MS/MS)**; Keding Cheng; Joanne McCrea; David Lee; Katherine Sierks; Stuart McCorrister; Gary Van Domselaar; Helen Tabor; Garrett Westmacott; Gehua Wang; *NML-PHAC Canada, Winnipeg, Canada*
- ThP 378 **In Planta Proteomics and Proteogenomics of the Biotrophic Barley Fungal Pathogen *Blumeria graminis* f.sp. hordei**; Laurence V. Bindschedler<sup>1</sup>; Tim Burgess<sup>2</sup>; Davinia J.S. Mills<sup>1</sup>; Jenny Ho<sup>3</sup>; Pietro D. Spanu<sup>2</sup>; Rainer Cramer<sup>1</sup>; <sup>1</sup>The University of Reading, Reading, UK; <sup>2</sup>Imperial College London, London, UK; <sup>3</sup>Thermo Fisher Scientific, Hemel Hempstead, UK
- ThP 379 **Quantitative Proteomic Analysis of Gluconacetobacter Diazotrophicus Interaction with Sugarcane**; Leticia Miranda Santos Lery<sup>1</sup>; Eduardo M. Nogueira<sup>2</sup>; Paulo M. Bisch<sup>1</sup>; Adriana S. Hemery<sup>2</sup>; Wanda M. A. von Kruger<sup>1</sup>; <sup>1</sup>Federal University of Rio de Janeiro, Rio De Janeiro, Brazil; <sup>2</sup>Instituto de Pesquisas do Jardim Botânico, Rio de Janeiro, Brasil
- ThP 380 **Proteomic Analysis of Caulobacter Crescentus Outer Membrane Subproteome**; Yuan Cao; Helen M. Johnson; Seth N. Levin; Carthene R. Bazemore-Walker; *Brown University, Providence, RI*
- ThP 381 **Top-Down Identification of Bacterial Intact Protein Expression Profile Markers**; Melinda A. McFarland; John H. Callahan; Denis Andrzejewski; Rebecca Bell; Steven M. Musser; *FDA/CFSAN, College Park, MD*
- ThP 382 **Decomposition of Soil Microbial Biomass: Investigations of Degradation Products by Mass Spectrometry**; Adrian Spence<sup>1</sup>; Andre J. Simpson<sup>2</sup>; Brian P. Kelleher<sup>1</sup>; <sup>1</sup>Dublin City University, Dublin, Ireland; <sup>2</sup>University of Toronto at Scarborough, Toronto, Canada
- ThP 383 **Quantitative Mass Spectrometric Analysis Reveals Bacterial Cell-Wall Organization**; Jiawei Chen<sup>1</sup>; Gary J. Patti<sup>2</sup>; Michael L. Gross<sup>1</sup>; <sup>1</sup>Washington University, St Louis, MO; <sup>2</sup>The Scripps Research Inst., La Jolla, CA
- ThP 384 **Classification of Mycotoxin-Producing Fusarium Species Based on MALDI-TOF MS Analyses of their Intact Spores**; Martina Marchetti-Deschmann<sup>1</sup>; Wolfgang Winkler<sup>1</sup>; Jasmin Kempner<sup>1</sup>; Emmanuel Raptakis<sup>2</sup>; Irina S. Druzhinina<sup>1</sup>; Robert Mach<sup>1</sup>; Christian P. Kubicek<sup>1</sup>; Guenter Allmaier<sup>1</sup>; <sup>1</sup>Vienna Univ. of Technology, Vienna, Austria; <sup>2</sup>Shimadzu Biotech Kratos Analytical, Manchester, UK
- ThP 385 **AP-MALDI MS/MS and Proteomics Based Rapid Detection of Food-Borne Pathogens**; Appavu Sundaram; Seshu Gudlavalleti; Jane Razumovskaya; Vladimir M. Doroshenko; *Science & Engineering Services, Inc., Columbia, MD*
- ThP 386 **Comprehensive Pathogen Identification Using MALDI TOF Coupled to Statistic Patented Procedure**; Fan Xiang<sup>1</sup>; Joachim Dyck<sup>2,2</sup>; <sup>1</sup>Shimadzu Biotech, Pleasanton, CA; <sup>2</sup>AnagnosTec, Potsdam, Germany
- ThP 387 **Application of MS Signatures of Intact Microorganisms in the Search for Extant Extraterrestrial Life**; Timothy J. Cornish<sup>1</sup>; Plamen A. Demirev<sup>3</sup>; William Brinkerhoff<sup>4</sup>; Miquel Antoine<sup>5</sup>; Luann Becker<sup>2</sup>; Scott Ecelberger<sup>3</sup>; Jeffrey Lin<sup>3</sup>; Andrew Feldman<sup>3</sup>; Nathan Hagan<sup>3</sup>; <sup>1</sup>JHU/APL, MS:4-234, Laurel, MD; <sup>2</sup>Johns Hopkins Univ., Baltimore, MD; <sup>3</sup>JHU/APL, Laurel, MD; <sup>4</sup>NASA Goddard SFC, Greenbelt, MD; <sup>5</sup>JHU-APL, Laurel, MD
- ThP 388 **Applicability of MALDI TOF Mass Spectrometry for Helicobacter Pylori Characterization and Typing**; Elena Ilina<sup>1</sup>; Marina V. Serebryakova<sup>1</sup>; Alexandra D. Borovskaya<sup>1</sup>; Kuvat T. Momynaliev<sup>1</sup>; Thomas Maier<sup>2</sup>; Markus Kostrzewa<sup>2</sup>; Vadim M. Govorun<sup>1</sup>; <sup>1</sup>Research Institute for Physical-Chemical Medicine, Moscow, Russian Federation; <sup>2</sup>Bruker Daltonik GmbH, Bremen, Germany
- ThP 389 **Investigating the Functional Activities and Cellular Processes of the Human Gut Microbiome by Multidimensional LC-MS/MS**; Robert Hettich<sup>1</sup>; Nathan C. Verberkmoes<sup>2</sup>; Alison Russell<sup>2</sup>; Manesh Shah<sup>1</sup>; Mark Lefsrud<sup>6</sup>; Adam Godzik<sup>3</sup>; Claire Fraser-Liggett<sup>5</sup>; Janet Jansson<sup>4</sup>; <sup>1</sup>Oak Ridge National Laboratory, Oak Ridge, TN; <sup>2</sup>UT-Oak Ridge National Lab, Knoxville, TN; <sup>3</sup>Burnham Institute for Medical Research, La Jolla, CA; <sup>4</sup>Lawrence Berkeley National Lab, Berkeley, CA; <sup>5</sup>University of Maryland School of Medicine, Baltimore, MD; <sup>6</sup>McGill University, Quebec, Canada
- ThP 390 **Analysis of the Proteome Released through the Type III Secretion System (T3SS) of Burkholderia Species**; Ünige A. Laskay<sup>1</sup>; Samantha I. Wickramasekara<sup>1</sup>; Jennifer R. Bethke<sup>1</sup>; Chengsi Huang<sup>1</sup>; Mingshun Liu<sup>2</sup>; Imke Schroeder<sup>2</sup>; Todd French<sup>2</sup>; Jeff F. Miller<sup>2</sup>; Vicki H. Wysocki<sup>1</sup>; <sup>1</sup>University of Arizona, Tucson, AZ; <sup>2</sup>UCLA, Los Angeles, CA
- ThP 391 **Metaproteomic Analysis of Microbial Endosymbionts from the Gutless Oligochaete Olavius Algarvensis**; Jacque Young<sup>1,2</sup>; Manuel Kleiner<sup>3,4</sup>; Manesh Shah<sup>1</sup>; Cecilia Wentrup<sup>4</sup>; Yun-Juan Chang<sup>1</sup>; Christian Lott<sup>4</sup>; Stephanie Markert<sup>2</sup>; Nathan C.

## THURSDAY POSTERS

- VerBerkmoes<sup>1</sup>; Nicole Dubilier<sup>4</sup>; <sup>1</sup>*Oak Ridge National Laboratory, Oak Ridge, Tennessee*; <sup>2</sup>*University of Tennessee, Knoxville, TN*; <sup>3</sup>*University of Greifswald, Greifswald, Germany*; <sup>4</sup>*Max-Planck-Institute for Marine Microbiology, Bremen, Germany*
- ThP 392 **Systems Fluctuations of an Extremely Halophilic Archaeon Haloarcula Marismortui at Mid- and Late-Log Phase of Growth Analyzed by MS/MS**; Li-chieh Julie Chu<sup>1</sup>; Han-ying Yang<sup>1</sup>; Yihuan Tsai<sup>2</sup>; Xuefeng Fung<sup>3</sup>; Ying Ting<sup>2</sup>; David R. Goodlett<sup>2</sup>; Wailap Ng<sup>1</sup>; <sup>1</sup>*National Yang Ming University, Taipei, Taiwan*; <sup>2</sup>*University of Washington, Seattle, WA*; <sup>3</sup>*Zhejiang University, Hangzhou, China*
- NUCLEIC ACIDS, 393 - 420**
- ThP 393 **Structural Features of the Anti-HIV DNA Quadruplexes Studied by Electrospray Ionization Mass Spectrometry and Circular Dichroism Techniques**; Xinhua Guo<sup>1</sup>; Shuying Liu<sup>2</sup>; <sup>1</sup>*Jilin University, Changchun, China*; <sup>2</sup>*Changchun Inst Appl Chem, Changchun, China*
- ThP 394 **Interaction of Oligonucleotide Sequence with Copper Complexes Using MALDI TOF Mass-Spectrometry**; Alexander G. Majouga<sup>1</sup>; Leonid A. Agron<sup>1</sup>; Elena K. Beloglazkina<sup>1</sup>; Nikolay I. Vorozhtsov<sup>1</sup>; Ilya A. Agron<sup>2</sup>; Nina A. Khristenko<sup>2</sup>; Evgenij N. Nikolaev<sup>2</sup>; Nikolay V. Zyk<sup>1</sup>; <sup>1</sup>*Lomonosov Moscow State University, Moscow, Russian Federation*; <sup>2</sup>*Institute for Energy Problems of Chemical Physics, Moscow, Russia*
- ThP 395 **Investigation of Structural Changes of Single Strand DNA Using Glyoxal and Potassium Permanganate Chemical Probes**; Carol E. Parr<sup>1</sup>; Jennifer Brodbelt<sup>2</sup>; <sup>1</sup>*University of Texas, Austin, Austin, TX*; <sup>2</sup>*The University of Texas, Austin, TX*
- ThP 396 **Probing Secondary and Tertiary Structures of Ribonucleoprotein Assemblies with Synthetic Deoxyribozymes**; Kevin B. Turner; Micheal German; Arie Hawkins; Alberto Berton; Daniele Fabris; *Univ. of Maryland, Baltimore County, Baltimore, MD*
- ThP 397 **Using Mass Spectrometry to Identify Components of Ribosome Assembly Intermediates**; Romel Dator; Rebecca Rohlf; Patrick A. Limbach; *University of Cincinnati, Cincinnati, OH*
- ThP 398 **Accurate Mass Analysis of Oligonucleotides Using a High Resolution Orbitrap Mass Spectrometer**; Amy Hilderbrand; Mark Sanders; *Thermo Fisher Scientific, Somerset, NJ*
- ThP 399 **An Amide-HILIC Nano-LC/MS Based Platform for Oligonucleotide Profiling**; Anders Mb Giessing<sup>1</sup>; Finn Kirpekar<sup>2</sup>; <sup>1</sup>*University of Southern Denmark, Odense, Denmark*; <sup>2</sup>*Univ. of Southern Denmark, Odense M, Denmark*
- ThP 400 **Rapid Characterization and Sequencing of RNAi Using Liquid Chromatography and Mass Spectrometry**; Vera Ivleva<sup>2</sup>; Sean Mccarthy<sup>1</sup>; Ying-qing Yu<sup>2</sup>; Martin Gilar<sup>1</sup>; <sup>1</sup>*Waters, Milford, MA*; <sup>2</sup>*Waters Corporation, Milford, MA*
- ThP 401 **Bioanalytical Method Development for the Determination of Antisense Oligonucleotides in Mouse Plasma By Reverse Phase Ion-Pair LC-MS/MS**; Philip S. Wong; Bruenner Bernd; Christopher James; *Amgen, Thousand Oaks, CA*
- ThP 402 **Characterization of Degradation Pathways of Modified Therapeutic Oligonucleotides Using Mass Sequencing via UPLC MS**; Ann O'brien; *Merck Co Inc, West Point, PA*
- ThP 403 **Sequencing of Chemically Modified RNAs by Exonuclease Digestion and MALDI-TOF Mass Spectrometry**; Hong Gao<sup>1</sup>; Yong Liu<sup>1</sup>; Megan Rumley<sup>2</sup>; Huimin Yuan<sup>1</sup>; Bing Mao<sup>1</sup>; <sup>1</sup>*Merck & Co., Inc., Rahway, NJ*; <sup>2</sup>*Department of Chemistry, North Carolina State Univ, Raleigh, NC*
- ThP 404 **Investigating Nuclease Action in qPCR Using Fluorescence and Mass Spectrometric Detection**; Eef Dirksen<sup>1</sup>; Andrew Derome<sup>2</sup>; Kristiane Schmidt<sup>2</sup>; <sup>1</sup>*Philips Research, MiPlaza, Eindhoven, Netherlands*; <sup>2</sup>*Philips Research, Molecular Diagnostics, Eindhoven, Netherlands*
- ThP 405 **Characterizing Quantifiable Signature Digestion Products of tRNAs by LC-MS/MS**; Siwei Li; Colette Castleberry; Patrick A. Limbach; *University of Cincinnati, Cincinnati, OH*
- ThP 406 **Electrospray-Generated Radical Cations as Negative Electron Transfer Dissociation (nETD) Reagents for Nucleic Acid Analysis**; Teng-yi Huang; Scott A. McLuckey; *Purdue University, West Lafayette, IN*
- ThP 407 **Novel Software for Engineered/Hybrid Oligonucleotide Mass Spectrometry Data Analysis**; Suping Zheng; Steven Becht; Xiaoya Ding; *PPD, Inc., Middleton, WI*
- ThP 408 **Chemical Synthesis of Carboxymethylated DNA Lesions and LC-MS/MS for Assessing their Formation in DNA upon Exposure to Diazoacetate**; Jianshuang Wang<sup>1</sup>; Yinsheng Wang<sup>1,2</sup>; <sup>1</sup>*UC Riverside, Riverside, CA*; <sup>2</sup>*University of California, Riverside, CA*
- ThP 409 **Mass Spectrometry for Revealing the Cytotoxic and Mutagenic Effects of the Minor Groove Adduct O<sup>2</sup>-Methylthymine in Cells**; Nisana Andersen; Jianshuang Wang; Yinsheng Wang; *University of California, Riverside, CA*
- ThP 410 **Mass Spectrometry for Assessing the Chemistry and Biology of DNA Lesions Formed from Byproducts of Glycolysis**; Bifeng Yuan; Lei Xiong; Huachuan Cao; Yong Jiang; Yinsheng Wang; *University of California, Riverside, CA*
- ThP 411 **Interloop Photoproduct Formation in the Human Telomere G-Quadruplexes**; Dian Su; John-Stephen Taylor; Michael L. Gross; *Washington University, St Louis, MO*
- ThP 412 **Analyses of Chemically Modified RNAs by Tandem Mass Spectrometry**; Fanyu Meng; Huimin Yuan; Bing Mao; *Merck & Co., Inc, Rahway, NJ*
- ThP 413 **Base Modification in Subtelomeric DNA – Mass Spectrometric Analysis**; Ilan Vidavsky<sup>1</sup>; Michael L. Gross<sup>1</sup>; Phillip Smiraldi<sup>2</sup>; Woodring E. Wright<sup>2</sup>; <sup>1</sup>*Washington University, St Louis, MO*; <sup>2</sup>*University of Texas Southwestern Medical Center, Dallas, TX*
- ThP 414 **Probing RNA Structure by Selective 2' Hydroxyl Acylation Analyzed by Mass Spectrometry (SHAMS)**; Alberto Berton<sup>1</sup>; Kevin B. Turner<sup>1</sup>; Robert G. Brinson<sup>2,3</sup>; John P. Marino<sup>3</sup>; Stuart F.J. Le Grice<sup>2</sup>; Daniele Fabris<sup>1</sup>; <sup>1</sup>*Univ. of Maryland, Baltimore County, Baltimore, MD*; <sup>2</sup>*National Cancer Institute, Frederick, MD*; <sup>3</sup>*Center for Advanced Research in Biotechnology, Rockville, MD*
- ThP 415 **Ion Trap Collision-Induced Dissociation of Locked Nucleic Acids**; Anastasia Kharlamova; Teng-yi Huang; Scott A. McLuckey; *Purdue University, West Lafayette, IN*
- ThP 416 **Top-Down Mass Spectrometry of Modified RNA**; Monika Schöllnberger; Ulrike Rieder; Ronald Micura;

## THURSDAY POSTERS

Kathrin Breuker; *University of Innsbruck, Innsbruck, Austria*

- ThP 417 **Determination of Psoralen Binding to Oligodeoxynucleotides by IRMPD and CID;** Suncerae Smith; Julia R. Aponte; Jennifer Brodbelt; *The University of Texas, Austin, TX*
- ThP 418 **Characterization of Interstrand Oligonucleotide Crosslinks by Infrared Multiphoton Dissociation;** Sarah E. Pierce<sup>1</sup>; Lynn J. Guziec<sup>2</sup>; Frank S. Guziec, Jr.<sup>2</sup>; Jennifer S. Brodbelt<sup>1</sup>; <sup>1</sup>*The University of Texas, Austin, TX*; <sup>2</sup>*Southwestern University, Georgetown, TX*
- ThP 419 **CID vs. ECD/ETD Sequencing of RNA:Protein Complexes;** Kady Krivos<sup>1</sup>; Patrick A. Limbach<sup>2</sup>; <sup>1</sup>*University of Cincinnati, Cincinnati, OH*; <sup>2</sup>*University of Cincinnati, Cincinnati, OH*
- ThP 420 **An Efficient Strategy for the Identification of UV-Induced Protein-RNA Crosslinks by ESI Mass Spectrometry;** Florian Richter<sup>1</sup>; He-Hsuan Hsiao<sup>1</sup>; Nicodeme Paul<sup>2</sup>; Xiao Luo<sup>1</sup>; Dimitry Agafonov<sup>1</sup>; Reinhard Lührmann<sup>1</sup>; Marcus Wahl<sup>1</sup>; Mihaela Zavolan<sup>1</sup>; Henning Urlaub<sup>1</sup>; <sup>1</sup>*MPI for Biophysical Chemistry, Goettingen, Germany*; <sup>2</sup>*Biocenter of the University Basel, Basel, Switzerland*

**PROTEOMICS: PHOSPHORYLATION PATHWAYS,  
421 - 454**

- ThP 421 **Quantitative Phosphoproteomics Study of the Sperm Membrane Protein During Capacitation;** Han-Jia Lin<sup>2</sup>; Tin-Wei Lin<sup>1,2</sup>; Yu-Lun Chiu<sup>1</sup>; Yet-Ran Chen<sup>1,2</sup>; <sup>1</sup>*Academia Sinica, Taipei, Taiwan*; <sup>2</sup>*National Taiwan Ocean University, Keelung, Taiwan*
- ThP 422 **Quantitative Phosphoproteomic Dissection of Signaling Pathways Applied to T Cell Signaling;** Vinh Nguyen; Lulu Cao; Kebin Yu; Arthur Salomon; *Brown University, Providence, RI*
- ThP 423 **Quantitative Phosphoproteome Analysis of a Macrophage Cell Line Reveals LPS-triggered Cell Signaling Events;** Di Wu; Xi Chen; Yong Zhao; Lin Guo; *College of Life Sciences, Wuhan University, Wuhan, Wuhan, China*
- ThP 424 **Phosphopeptide Profile for the Early Diagnosis of Minimal Residual Disease in Response to Doxorubicin Treatment of Leukemia Cell Disease;** Songyun Xu; *Stanford University, Palo Alto, CA*
- ThP 425 **Identification and Quantitation of GSK3 Phosphorylation Sites in MEF2 Transcription Factors;** David Cox<sup>1</sup>; Nathaniel B Nowacki<sup>2</sup>; John C McDermott<sup>2</sup>; <sup>1</sup>*MDS Analytical Technology, Concord, Canada*; <sup>2</sup>*York University, North York, Canada*
- ThP 426 **Quantitative Phospho-Proteomics of Human Embryonic Stem Cell Differentiation;** Jeroen Krijgsvel<sup>1,4</sup>; Javier Munoz<sup>1</sup>; Dennis Van Hoof<sup>2</sup>; Martijn Pinkse<sup>1</sup>; Stefan Braam<sup>2,5</sup>; Rune Linding<sup>3</sup>; Christine Mummery<sup>2,5</sup>; Albert J.R. Heck<sup>1</sup>; <sup>1</sup>*Utrecht University, Utrecht, The Netherlands*; <sup>2</sup>*Hubrecht Institute, Utrecht, The Netherlands*; <sup>3</sup>*Institute of Cancer Research, London, UK*; <sup>4</sup>*EMBL, Heidelberg, Germany*; <sup>5</sup>*Leiden University Medical Center, Leiden, The Netherlands*
- ThP 427 **Phosphorylation Dynamics of Kinases Across Mitosis;** Kalyan Dulla; Henrik Daub; Renate Hornberger; Albert Ries; Erich Nigg; Roman Körner; *Max Planck Institut für Biochemie, Martinsried, Germany*
- ThP 428 **Temporal Changes in Relative Protein Expression in Response to IGF-1R Signaling Using iTRAQ Quantitative Proteomics in MCF-7 Breast Cancer**

**Cells;** Patrick Murphy<sup>1</sup>; Devanand M. Pinto<sup>2</sup>; <sup>1</sup>*Dalhousie University, Halifax, Canada*; <sup>2</sup>*NRC, Halifax, NS*

- ThP 429 **Identification and Quantitative Profiling of Phosphoproteins Expressed Oligodendrocyte in the Human Neural Stem Cell;** Kun Cho<sup>1</sup>; Eunmin Kim<sup>1</sup>; Gun Wook Park<sup>1</sup>; Jeong Hwa Lee<sup>1</sup>; Kyung-Hoon Kwon<sup>1</sup>; Jinyoung Kim<sup>1</sup>; Kyung Hee Byn<sup>2</sup>; Bong Hee Lee<sup>2</sup>; Jong Shin Yoo<sup>1</sup>; <sup>1</sup>*Korea Basic Science Institute, Ochang, South Korea*; <sup>2</sup>*Gachon University Medical Center, Incheon, South Korea*
- ThP 430 **Quantitative Phosphoproteomic Analysis of Signaling Pathways Triggered by Insulin in Rat L6 Myotubes;** Junjie Hou; Peng Xue; Zhensheng Xie; Ziyu Cui; Xiulan Chen; Peng Wu; Linan Shi; Tanxi Cai; Jing Li; Fuquan Yang; *Institute of Biophysics, CAS, Beijing, China*
- ThP 431 **Analysis of Platelet Storage Lesion Signaling Pathways Using Quantitative Proteomics and Phosphopeptide Enrichment;** Geraldine M Walsh; Arash Khosrovi-Eghbal; Eva Rieker; Jason Rogalski; Juergen Kast; *University of British Columbia, Vancouver, BC*
- ThP 432 **Characterising Corticotropin Releasing Hormone Receptor-Induced Signalling Dynamics;** Georgios Efsthathiou<sup>1</sup>; Susan E Slade<sup>1</sup>; Maria Delidaki<sup>1</sup>; Jim Langridge<sup>2</sup>; Joanne B. Connolly<sup>3</sup>; Dimitri K Grammatopoulos<sup>1</sup>; Chris Hughes<sup>3</sup>; James Scrivens<sup>1</sup>; <sup>1</sup>*Univ of Warwick, Coventry, UK*; <sup>2</sup>*Waters Corporation, Manchester, UK*; <sup>3</sup>*Waters, Manchester, UK*
- ThP 433 **Phosphoproteome Analysis of Pathogenic and Non-Pathogenic Pseudomonas Species;** Yasushi Ishihama<sup>1,2</sup>; Naoyuki Sugiyama<sup>1</sup>; Sumiko Ohnuma<sup>1</sup>; Masaru Tomita<sup>1</sup>; Ayshwarya Ravichandran<sup>3</sup>; Sanjay Swarup<sup>3</sup>; <sup>1</sup>*Keio University, Tsuruoka, Japan*; <sup>2</sup>*Presto-JST, Tokyo, Japan*; <sup>3</sup>*National University of Singapore, Singapore*
- ThP 434 **Profiling Global Changes in the Phosphoproteome of Epithelial Cells Following the Inhibition of ERK1/2 MAP Kinase Pathway;** Mathieu Courcelles; Catherine Julien; Sébastien Lemieux; Sylvain Meloche; Pierre Thibault; *IRIC/Université de Montréal, Montréal, Canada*
- ThP 435 **Quantitative Site-Specific Tyrosine Phosphorylation Analysis of EphB Receptor Signaling;** Guoan Zhang<sup>1,3</sup>; David Fenyo<sup>2</sup>; Thomas Neubert<sup>1,3</sup>; <sup>1</sup>*Skirball Institute, NYUMC, New York, NY*; <sup>2</sup>*The Rockefeller University, New York, NY*; <sup>3</sup>*Skirball Institute, NYUMC, New York, NY*
- ThP 436 **Cdc5 Regulates Chromosome Condensation by Phosphorylation of the Condensin Complex;** Julie St-Pierre; Mélanie Douziech; Franck Bazile; Mirela Pascariu; Eric Bonneil; Véronique Sauvé; Hery Ratsima; Damien D'Amours; *IRIC-Université de Montréal, Montréal, QC*
- ThP 437 **Discovery of Anthrax Biomarkers Using Label-Free Quantitative Phosphoproteomics and LC-LTQ-Orbitrap-MS(MS);** Nathan P Manes; Li Dong; Weidong Zhou; Nikitha Reghu; Arjan C Kool; Charles Bailey; Emanuel F Petricoin; Lance A Liotta; Serguei G Popov; *George Mason University, Manassas, VA*
- ThP 438 **Phosphorylation of p300 in the Beta-Catenin Interacting N-Terminus;** Mingquan Guo; Zanzian Xia; Hong Ma; Nguyen Cu; Michael Kahn; *University of Southern California, Los Angeles, CA*

## THURSDAY POSTERS

- ThP 439 **Measurement of Kinase Profiles by Selected Reaction Monitoring;** Ulrike Kusebauch<sup>1</sup>; Johan Malmstrom<sup>2</sup>; Oliver Rinner<sup>2</sup>; Ruedi Aebersold<sup>1,2</sup>; <sup>1</sup>*Institute for Systems Biology, Seattle, WA*; <sup>2</sup>*ETH, Zurich, Switzerland*
- ThP 440 **Characterization and Quantitation of Phosphotyrosine Signaling Networks: Selective Enrichment and Mass Spectrometry for Building Targeted Assays to Monitor Phosphorylation Cascades;** Michael Major<sup>2</sup>; Michael Rosenblatt<sup>2</sup>; Paul Taylor<sup>1</sup>; Scott Peterman<sup>2</sup>; Sarah Feuillerat<sup>2</sup>; Mark Schofield<sup>2</sup>; Barbara Kaboord<sup>2</sup>; John Rogers<sup>2</sup>; Michael Moran<sup>1</sup>; <sup>1</sup>*Hospital for Sick Children, Toronto, ON*; <sup>2</sup>*Thermo Fisher Scientific, Rockford, IL*
- ThP 441 **Ultrasensitive, Multiplexed Kinase Activity Profiling: Identification of Biomarkers for Cancer Signaling Networks;** Yonghao Yu<sup>1</sup>; Rana Anjum<sup>1</sup>; Kazuishi Kubota<sup>1</sup>; John Rush<sup>2</sup>; Judit Villen<sup>1</sup>; Steven Gygi<sup>1</sup>; <sup>1</sup>*Harvard Medical School, Boston, MA*; <sup>2</sup>*Cell Signaling Technology, Danvers, MA*
- ThP 442 **Development and Application of a Label-Free Quantitative Phosphoproteomic Platform to Study Signaling Pathways in Zebrafish;** Erik J. Soderblom<sup>1</sup>; J. Will Thompson<sup>1</sup>; Melanie Philipp<sup>1,2</sup>; Marc G. Caron<sup>1,2</sup>; Arthur Moseley<sup>1</sup>; <sup>1</sup>*Duke University School of Medicine, Durham, NC*; <sup>2</sup>*Department of Cell Biology, Durham, NC*
- ThP 443 **A Combined SIMAC-HILIC-TiO<sub>2</sub> Strategy for Large-Scale Phosphoproteomic Analysis of Sub-Milligram Amounts of Sample Material;** Kasper Engholm-Keller; Søren S. Jensen; Martin R. Larsen; *University of Southern Denmark, Odense M, Denmark*
- ThP 444 **Can SILAC Quantitatively Characterize Phosphoproteome in Culture Cells?;** Koshi Imami<sup>1</sup>; Naoyuki Sugiyama<sup>1</sup>; Masaru Tomita<sup>1</sup>; Yasushi Ishihama<sup>1,2</sup>; <sup>1</sup>*Institute for Advanced Biosciences, Keio Univ., Tsuruoka, Japan*; <sup>2</sup>*Presto, Tokyo, Japan*
- ThP 445 **Analysis by Blue Native PAGE and Mass Spectrometry of Protein-Protein Interactions within EphB2-NG108 Cells in Response to EphrinB1-Fc Stimulation;** Costel Darie<sup>1</sup>; Helene Cardasis<sup>4</sup>; Guoan Zhang<sup>5</sup>; Kathrin Deinhardt<sup>2</sup>; Vivekananda Shetty<sup>3</sup>; Thomas Neubert<sup>2</sup>; <sup>1</sup>*The Mount Sinai Medical Center, New York, NY*; <sup>2</sup>*Skirball Institute, NYUMC, New York, NY*; <sup>3</sup>*Immunotope, Inc., Doylestown, PA*; <sup>4</sup>*Merck & Co., Rahway, NJ*; <sup>5</sup>*New York University, New York, NY*
- ThP 446 **Highly Multiplexed Robust Phosphopeptide Quantitation in Complex Cell Extracts Using Timed MRM Methods;** Brigitte Simons<sup>1</sup>; Jason Hoffert<sup>2</sup>; Mark Knepper<sup>2</sup>; <sup>1</sup>*MDS Analytical Technologies, Concord, Canada*; <sup>2</sup>*NHLBI, Bethesda, MD*
- ThP 447 **A Systematic Approach to Identify Protein Kinase Substrates;** Yong Chi<sup>1,2</sup>; Jeffrey J. Posakony<sup>2</sup>; Bruce E. Clurman<sup>2</sup>; Ruedi Aebersold<sup>1</sup>; <sup>1</sup>*Institute for Systems Biology, Seattle, WA*; <sup>2</sup>*Fred Hutchinson Cancer Research Center, Seattle, WA*
- ThP 448 **High Sensitivity Nanoscale Multidimensional LC/MS Analysis of Phosphopeptides;** Scott Ficarro<sup>1</sup>; Yi Zhang<sup>1</sup>; Feng Zhou<sup>1</sup>; Job Cardoza<sup>1</sup>; Guillaume Adelmant<sup>1</sup>; Manor Askenazi<sup>2</sup>; Amanda Berg<sup>3</sup>; Gary Valaskovic<sup>3</sup>; Jarrod Marto<sup>1</sup>; <sup>1</sup>*Dana-Farber Cancer Institute, Boston, MA*; <sup>2</sup>*Dana-Farber Cancer Institute and Hebrew University, Boston, MA*; <sup>3</sup>*New Objective, Inc., Woburn, MA*
- ThP 449 **Selective Elution of Singly and Multiply Phosphopeptides in Aliphatic Hydroxy Acid-**
- Modified Metal Oxide Chromatography;** Yutaka Kyono<sup>1</sup>; Naoyuki Sugiyama<sup>1</sup>; Masaru Tomita<sup>1</sup>; Yasushi Ishihama<sup>1,2</sup>; <sup>1</sup>*Keio University, Tsuruoka, Japan*; <sup>2</sup>*Presto JST, Tokyo, Japan*
- ThP 450 **Quantitative Phosphoproteome Analysis of the TNF-Signaling Protein having Biphasic Phos-tag/C18 Tip Separation between iTRAQ-Labeling and MS Analysis;** Takuji Nabetani<sup>1</sup>; Yeon-Jeong Kim<sup>1</sup>; Masaki Watanabe<sup>2</sup>; Yoko Ohashi<sup>1</sup>; Hiroyuki Kamiguchi<sup>1</sup>; Yoshio Hirabayashi<sup>1</sup>; <sup>1</sup>*Riken BSI, Wako, Japan*; <sup>2</sup>*Hitachi High-Technologies, Hitachinaka-shi, Japan*
- ThP 451 **A New Approach for Quantitative Phosphoproteomic Dissection of Signaling Pathways Applied to T Cell Receptor Activation;** Vinh Nguyen<sup>1</sup>; Arthur Salomon<sup>2</sup>; <sup>1</sup>*Brown University MCB Department, Providence, RI*; <sup>2</sup>*Brown University, Providence, RI*
- ThP 452 **Molecular Dissection of Ras-MAPK Signaling Pathway Using Phosphoproteomics and RNA Interference;** Gaëlle Bridon; Malha Sahmi; Marc Therrien; Pierre Thibault; *Univ. of Montreal, Montreal, QC*
- ThP 453 **Phosphopeptide Analysis of Marek's Disease Virus (MDV)-Infected Cells Using Electrostatic Repulsion Hydrophilic Interaction Chromatography (ERLIC), IMAC, and LC/MS/MS;** Ko-yi Chien; Kevin Blackburn; Hsiao-Ching S. Liu; Michael B. Goshe; *NC State University, Raleigh, NC*
- ThP 454 **Enrichment and 12-Plex Profiling of Phosphoproteins Using Affinity Chromatography, SILAC, and Tandem Mass Tags;** Michael Rosenblatt<sup>1</sup>; Michael Major<sup>1</sup>; Julian Saba<sup>2</sup>; Sarah Feuillerat<sup>2</sup>; Rosa Viner<sup>2</sup>; Krystal Rampalli<sup>1</sup>; John Rogers<sup>1</sup>; <sup>1</sup>*Thermo Fisher Scientific, Rockford, IL*; <sup>2</sup>*ThermoFisher Scientific, San Jose, CA*

## NEUROPEPTIDES, 455 - 471

- ThP 455 **New Insights into the Degradation of Neuropeptides by Metalloendopeptidases;** Markus Hardt<sup>1</sup>; Richard Niles<sup>2</sup>; Graeme S. Cottrell<sup>2</sup>; Nigel Bunnett<sup>2</sup>; <sup>1</sup>*Boston Biomedical Research Institute, Watertown, MA*; <sup>2</sup>*Univ. of CA San Francisco, San Francisco, CA*
- ThP 456 **Characterization of Drosophila Melanogaster Neuropeptides by MALDI-FT-ICR Imaging MS, MALDI-TOF MS, and MALDI-TOF/TOF MS;** Kristin J. Boggio<sup>1</sup>; Yun-Wei A. Hsu<sup>1</sup>; Paul J. Kowalski<sup>2</sup>; Michael L. Easterling<sup>2</sup>; Michael Rosbash<sup>1</sup>; Jeffrey N. Agar<sup>1</sup>; <sup>1</sup>*Brandeis University, Waltham, MA*; <sup>2</sup>*Bruker Daltonics Inc., Billerica, MA*
- ThP 457 **Use of an Antibody Functionalized Surface Specific for Amyloid Precursor Protein in Detection of Beta Amyloid Fragments by Mass Spectrometry;** Steve Roth<sup>1,1</sup>; Vanitha Thulasiraman<sup>1,2</sup>; Amanda Bulman<sup>1,2</sup>; Fiona Plows<sup>1,3</sup>; Mariana Rusa<sup>1,2</sup>; Matthew Hammond<sup>1,4</sup>; <sup>1</sup>*Fremont, CA*; <sup>2</sup>*Bio-Rad Laboratories, Hercules, CA*; <sup>3</sup>*Bio-Rad Laboratories, Inc., Hercules, CA*; <sup>4</sup>*Stanford University, Stanford, CA*
- ThP 458 **Mapping Neuropeptide Expression in Single Identified Neurons in the Nematode Ascaris Suum;** Jessica Jarecki; Kari Andersen; Martha M. Vestling; Antony O. Stretton; *University of Wisconsin, Madison, WI*
- ThP 459 **C-Terminal Methyl Esterification During Neuropeptide Extraction;** Elizabeth A. Stemmler<sup>1</sup>; Elizabeth E. Barton<sup>1</sup>; Laura L. Onderko<sup>1</sup>; Andrew E. Christie<sup>2</sup>; Patsy S. Dickinson<sup>1</sup>; <sup>1</sup>*Bowdoin College,*

## THURSDAY POSTERS

- Brunswick, ME; <sup>2</sup>Mount Desert Island Biological Laboratory, Salisbury Cove, ME
- ThP 460 **Exploring the Functional Consequences of Neuropeptide Diversity by MALDI Mass Spectrometry;** Limei Hui; Ruibing Chen; Lingjun Li; Univ. of Wisconsin-Madison, Madison, WI
- ThP 461 **MS-Based Characterization of Neuropeptides Present in and Released from the Suprachiasmatic Nucleus;** Shifang Ren; Norman Atkins; Ji Eun Lee; Nathan G. Hatcher; Martha U. Gillette; Neil L. Kelleher; Jonathan Sweedler; University of Illinois at Urbana-champaign, Urbana, IL
- ThP 462 **Using Deuterium Exchange Electrospray Mass Spectrometry to Evaluate Inhibitors of Amyloid- $\beta$  Oligomerization;** Zijuan Zhang; Jason J. Evans; Marrianna Torok; University of Massachusetts Boston, Boston, MA
- ThP 463 **High Throughput Single Cell MALDI-MS;** Stanislav Rubakhin<sup>1</sup>; Jonathan Sweedler<sup>2</sup>; <sup>1</sup>Beckman Institute, UIUC, Urbana, IL; <sup>2</sup>University of Illinois, Urbana, IL
- ThP 464 **Characterization of Signaling Peptides in Sensory Neurons by MALDI-TOF and LC-ESI-qTOF Mass Spectrometry;** Elena V. Romanova<sup>1</sup>; Stanislav S. Rubakhin<sup>1</sup>; Ferdinand S. Vilim<sup>2</sup>; Jonathan V. Sweedler<sup>1</sup>; <sup>1</sup>University of Illinois, Urbana, IL; <sup>2</sup>Mount Sinai School of Medicine, New York, NY
- ThP 465 **Development and Application of Quantitation via In Cell Combination (QUICC) Methodology for MALDI FTMS Analysis of Neuropeptides in Environmental Stress;** Yuzhuo Zhang; Ruibing Chen; Lingjun Li; University of Wisconsin, Madison, WI
- ThP 466 **Discovery of Novel Neuropeptides and Processing Mechanisms Using Mass Spectrometry;** Nitin Gupta; Steven Bark; Weiya Lu; Laurent Taupenot; Daniel O'Connor; Pavel Pevzner; Vivian Hook; UCSD, La Jolla, CA
- ThP 467 **MALDI-MS Probing of Non-Covalent Protein Complexes Related to Alzheimer's Disease;** Basri Gülbakan<sup>1</sup>; Bekir Salih<sup>2</sup>; <sup>1</sup>University of Florida, Gainesville, Florida; <sup>2</sup>Hacettepe University, Ankara, Turkey
- ThP 468 **Peptidomic Profiling of Secreted Products from Cardiomyocytes Reveals Novel Natriuretic Peptide Processing;** Nancy Andon; James Bilakovics; Svetlana Nikoulina; Kevin McCowen; Steven Taylor; Amylin Pharmaceuticals, Inc., San Diego, CA
- ThP 469 **Expression and Distribution of Neuropeptides in the Nervous System of the Lobster Homarus Americaus and their Roles in Development;** Ruibing Chen; Xiaoyue Jiang; Lingjun Li; UW, Madison, Madison, WI
- ThP 470 **In vivo Monitoring of Dose Dependent Dynamic Changes of Endogenous Enkephalins by Microdialysis with Capillary LC Multistage MS;** Qiang Li; Jon-Kar Zubieta; Robert Kennedy; University of Michigan, Ann Arbor, MI
- ThP 471 **Inhibition of Prohormone Convertase 1/3 Peptide Hormone Processing by Organophosphate Treatment;** Sean Harshman; William C. Grunwald, Jr; David Cool; Wright State University, Dayton, OH
- ThP 473 **Identification of Protein Differences in the C.elegans Insulin Signaling Pathway;** Gennifer Merrihew; Gregory L. Finney; Michael J. Maccoss; University of Washington, Seattle, WA
- ThP 474 **Novel Interacting Partners of the Escherichia Coli Poly(A) Polymerase I (PAP1): in vivo Evidence for Interaction with the Degradosome;** Valerie J. Carabetta; Thomas J. Silhavy; Ileana M. Cristea; Princeton University, Princeton, NJ
- ThP 475 **Label-free Proteomic Expression Profiling of Haemophilus Influenza with a High Proteomic Coverage by Dual-Enzymatic Digestion and Long Gradient Nano-LC/Orbitrap;** Jun Li; Timothy Murphy; Aimee Braue; Xiaotao Duan; Robert Straubinger; Jun Qu; University at Buffalo, Amherst, NY
- ThP 476 **Redox-Dependent Disulfide Formation in the Zinc-Finger Motif of the SAP30L Co-repressor Protein Studied by ESI FT-ICR Mass Spectrometry;** Janne Jänis<sup>1</sup>; Mikko Laitaoja<sup>1</sup>; Keijo Viiri<sup>2</sup>; Jarkko Valjakka<sup>2</sup>; Olli Lohi<sup>2</sup>; Perttu Permi<sup>3</sup>; Tero Pihlajamaa<sup>3</sup>; Helena Tossavainen<sup>3</sup>; Pirjo Vainiotalo<sup>1</sup>; <sup>1</sup>University of Joensuu, Joensuu, Finland; <sup>2</sup>University of Tampere, Tampere, Finland; <sup>3</sup>University of Helsinki, Helsinki, Finland
- ThP 477 **Analysis of Cross-Linked Cu/Zn-Superoxide Dismutase (SOD1) Associated with Familial Amyotrophic Lateral Sclerosis by MALDI-TOF MS and FT-ICR MS;** Jared R. Auclair; Kristin J. Boggio; Dagmar Ringe; Gregory A. Petsko; Jeffrey N. Agar; Brandeis University, Waltham, MA
- ThP 478 **Complexes of Perfluorooctanoic Acid (PFOA) and Liver Fatty Acid Binding Protein Probed by Electrospray-Tandem Mass Spectrometry (ESI-MS/MS);** Raymond E. March<sup>1</sup>; Naomi L. Stock<sup>2</sup>; Kyle Trumpour<sup>1</sup>; Mark Woodcroft<sup>3</sup>; Steven P. Rafferty<sup>1</sup>; David A. Ellis<sup>1,4</sup>; <sup>1</sup>Department of Chemistry, Trent University, Peterborough, Canada; <sup>2</sup>Worsfold Water Quality Centre, Trent University, Peterborough, Canada; <sup>3</sup>Department of Biochemistry, Queen's University, Kingston, Canada; <sup>4</sup>Canadian Environmental Modelling Centre, Peterborough, Canada
- ThP 479 **Utilization of a Flow through Membrane Electrospray Probe for Online H/D Exchange ESI-MS;** Thomas P. White<sup>1</sup>; Juan Astorga-wells<sup>2</sup>; Tomas Bergman<sup>2</sup>; Hans Jornvall<sup>2</sup>; Thorleif Lavold<sup>3</sup>; Craig M. Whitehouse<sup>1</sup>; <sup>1</sup>Analytica of Branford, Inc., Branford, CT; <sup>2</sup>Karolinska Institutet, Stockholm, Sweden; <sup>3</sup>Biomotif AB, Danderyd, Sweden
- ThP 480 **Mass Spectrometry-Based Footprinting of HIV-1 Integrase in Complex with a Cellular Cofactor;** Christopher Mckee; Jacques J. Kessl; Jocelyn O. Norris; Nikolozi Shkriabi; Mamuka Kvaratskhelia; The Ohio State University, Columbus, OH
- ThP 481 **Qualitative and Quantitative Analysis of Programmed Ribosomal Frameshifting by Multiple Reaction Monitoring;** Yong Seok Choi<sup>1</sup>; Pei-Yu Liao<sup>2</sup>; Kelvin H. Lee<sup>1</sup>; <sup>1</sup>University of Delaware, Newark, DE; <sup>2</sup>Cornell University, Ithaca, NY
- ThP 482 **Reconstituted Nucleosomes Containing Recombinant Human Histones for Mass Spectrometry-Based Biophysical Studies;** Sandya Ajith; Stacey Wood; Tanya Panchenko; Ben E. Black; University of Pennsylvania, Philadelphia, PA
- ThP 483 **Thermodynamic Analysis of Protein-Ligand Binding Interactions Using SPROX;** Graham M West;
- PROTEINS: GENERAL, 472 - 507**
- ThP 472 **Degradation Products Analysis of an Fc Fusion Protein Using LC/MS Methods;** Drew Nichols; Pavel Bondarenko; Jill Beierle; Gayathri Ratnaswamy; Michael J. Treuheit; David Brems; Da Ren; Amgen Inc., Thousand Oaks, CA



## THURSDAY POSTERS

- Stephanie Cordato; Michael C. Fitzgerald; *Duke University, Durham, NC*
- ThP 484 **Elucidation of the Binding of Abeta 1-40 with Human Apolipoprotein E3 by FPOL Labeling;** Brian C. Gau; Michael L. Gross; *Washington University, St. Louis, MO*
- ThP 485 **Rapid, Isotope-Coded Method for Mapping Protein-Protein and Protein-Ligand Interactions;** Katina L. Johnson; Matthew J Cuneo; Robert E London; Kenneth B Tomer; Jason G Williams; *NIEHS, NIH, DHHS, Research Triangle Park, NC*
- ThP 486 **Identification of Gli2 Protein Complexes in Mammalian Cells Using Nano-LC-MSMS and MALDI-TOF/TOF;** Min Du; Ke Lu; Charles P. Emerson; *Boston Biomedical Research Institute, Watertown, MA*
- ThP 487 **Biochemical and Functional Characterization of Serine Protease HTAR1 in Human Retinal Pigment Epithelial Cell Secretome;** Eunkyoung An<sup>1,2</sup>; Supti Sen<sup>2</sup>; Heather Gordish-Dressman<sup>2</sup>; Kristy J. Brown<sup>2</sup>; Yetrib Hathout<sup>2</sup>; <sup>1</sup>*The George Washington University, Washington, DC*; <sup>2</sup>*Children's National Medical Center, Washington, DC*
- ThP 488 **States of DNA Packaging Motors in Bacteriophage: Characterization of Proteins by Mass Spectrometry;** Susan T. Weintraub; Elena T. Wright; Kevin W. Hakala; Philip Serwer; *University of Texas HSC, San Antonio, TX*
- ThP 489 **Protein Interactions of the Telomerase Holoenzyme in Saccharomyces Cerevisiae and Schizosaccharomyces Pombe;** Karin R. McDonald; Virginia A. Zakian; Ileana M. Cristea; *Princeton University, Princeton, NJ*
- ThP 490 **The CrkRS/CDK12 Kinase is Activated by a Novel Isoform of Cyclin K and Phosphorylates the C-Terminal Domain of RNA Pol2;** Annie Moradian<sup>1</sup>; Michael Kuzyk<sup>2</sup>; S.-W. Grace Cheng<sup>2</sup>; Jerry Tien<sup>3</sup>; Emily Schaeffer<sup>3</sup>; Gregg Morin<sup>1,3</sup>; <sup>1</sup>*Genome Sciences Centre, BC, Vancouver, Canada*; <sup>2</sup>*University of Victoria Genom, Victoria, BC*; <sup>3</sup>*University of British Columb, Vancouver, BC*
- ThP 491 **Profiling Akt-Interacting Proteins in Neuronal Cells;** Bill Huang; Hee-yong Kim; *National Institutes of Health, Bethesda, MD*
- ThP 492 **Using Different Mass Spectrometry Approaches to Study PKA Interactome;** Yurong Guo<sup>1</sup>; Yuliang MA<sup>1</sup>; Susan S Taylor<sup>1,2</sup>; <sup>1</sup>*HHMI, San Diego, CA*; <sup>2</sup>*UCSD, San Diego, CA*
- ThP 493 **Beam-type CID of Whole Protein Ions in Excess of 35 kDa;** Chamnongsak Chanthamontri; Scott A. McLuckey; *Purdue University, West Lafayette, IN*
- ThP 494 **Optimization and Evaluation of Subcellular Fractionation Method for Global Proteomic Analysis;** Jong-won Kim; *Monarchlifesciences, Indianapolis, IN*
- ThP 495 **Mass Defect Analysis of Tryptic Peptides from Human Biofluids: A Fresh Look;** Melinda L. Toumi; Heather Desaire; *University of Kansas, Lawrence, KS*
- ThP 496 **Evaluation of Dynamic Range of Protein Identification and Quantification by LC-MSMS Using a Proteomics Dynamic Range Standard Mixture;** Suya Liu; Gilles Lajoie; *University of Western Ontario, London, ON, Canada*
- ThP 497 **Cleavable Affinity Extraction and Mass Spectrometric Analysis of Small Molecule-Binding Proteins;** Nariyasu Mano<sup>1,2</sup>; Koichi Sato<sup>2</sup>; Kohei Abe<sup>1,2</sup>; Masaru Mori<sup>2</sup>; Hiroaki Yamaguchi<sup>1,2</sup>; Takaaki Goto<sup>2</sup>; Miki Shimada<sup>1,2</sup>; Junichi Goto<sup>1</sup>; <sup>1</sup>*Tohoku University Hospital, Sendai, Japan*; <sup>2</sup>*Tohoku University, Sendai, Japan*
- ThP 498 **Study of Proteolytic Digestion Efficiencies Under Conventional Heating and Microwave Irradiation Using MALDI-MS;** Chia-chen Chen; Mei-chuan Sun; Jun-Fu Hu; Yen-Peng Ho; *National Dong Hwa University, Taipei, Taiwan*
- ThP 499 **High-Speed, High-Resolution Antibody Analysis Using sub2 Micron Columns for Peptide Mapping and Intact Protein Characterization;** Reno Nguyen; Scott Anderson; Mark Jacyno; Wendy Luo; Ian Chappell; *Grace Davison, Deerfield, IL*
- ThP 500 **Temperature Effect on Ultrasound-Assisted Tryptic Digestion of Proteins;** Seongjae Shin; Jinhee Kim; Hyo-jik Yang; Gae Ho Lee; Jeongkwon Kim; *Chungnam National University, Daejeon, South Korea*
- ThP 501 **Finding the Needles in the Hay Stack – Identifying Interacting Regions through Cross-Linking;** A. Jimmy Ytterberg<sup>1</sup>; Elena E. Grintsevich<sup>2</sup>; Dmitri S. Kudryashov<sup>2</sup>; Zeynep A. Oztug Durer<sup>2</sup>; Emil Reisler<sup>2</sup>; Ole N. Jensen<sup>1</sup>; Joseph A. Loo<sup>2</sup>; <sup>1</sup>*University of Southern Denmark, Odense, Denmark*; <sup>2</sup>*UCLA, Los Angeles, CA*
- ThP 502 **Evaluation of Cross-Linker and Protein Dynamics in Cross-Linking Coupled to Mass Spectrometry Experiments;** Alana Dos Reis Figueiredo; Paulo C. T. Souza; Munir S. Skaf; Fabio C Gozzo; *Institute of Chemistry - University of Campinas, Campinas, Brazil*
- ThP 503 **Protein Footprinting by Peroxide Photolysis Using Hg Lamp and 213 nm Laser as Radiation Sources;** Eduardo J Pilau; Alexandre F. Gomes; Marcelo A. O. Silva; Marco Aurelio Z. Arruda; Fabio C Gozzo; *IQ - University of Campinas, Campinas, Brazil*
- ThP 504 **Use of Marker Ions and High Resolution Precursor Ion Scan for the Identification of Cross-linked Peptides;** Fabio C Gozzo; Amadeu H Iglesias; Luiz Fernando Arruda Santos; *IQ - University of Campinas, Campinas, Brazil*
- ThP 505 **Enhanced Detection of Intact Proteins by Nanole-MS Using a Novel Trapping Mode on a Hybrid Linear Ion Trap Mass Spectrometer;** Paul Drogaris<sup>2,6</sup>; Feng Zhong<sup>1</sup>; J.c. Yves Leblanc<sup>1</sup>; Alain Verreault<sup>2,4</sup>; Jennifer Fitzgerald<sup>5</sup>; Noel Lowndes<sup>5</sup>; Pierre Thibault<sup>3,6</sup>; <sup>1</sup>*MDS Analytical Technologies, Concord, ON, Canada*; <sup>2</sup>*Université de Montréal, Montréal, QC*; <sup>3</sup>*Univ. of Montreal, Montreal, QC*; <sup>4</sup>*Dept. Pathology & Cell Biology (U de Montreal), Montreal, Canada*; <sup>5</sup>*Dept. Biochemistry National University of Ireland, Galway, Ireland*; <sup>6</sup>*Institute for Research in Immunology and Cancer, Montreal, Canada*
- ThP 506 **Extraction and Identification of Proteins from a Pottery Matrix Using Microwave-Assisted Enzymatic Digestion and Tandem Mass Spectrometry;** Andrew Barker<sup>2</sup>; Steve Wolverton<sup>2</sup>; Barney Venables<sup>2</sup>; Stanley M. Stevens, Jr.<sup>1</sup>; <sup>1</sup>*University of South Florida, Tampa, FL*; <sup>2</sup>*University of North Texas, Denton, TX*
- ThP 507 **Specific Non-covalent Complex between the Major-Sperm-Protein Homology Domain of a Vesicle-Associated-Membrane-Protein-Associated Protein (VAP) and FFAT-Motif Peptides in the Gas Phase;** Thomas A. Shaler<sup>1</sup>; Stephen E. Kaiser<sup>2</sup>; Chris Becker<sup>1</sup>; <sup>1</sup>*PPD Biomarker Discovery Sciences, Menlo Park, CA*; <sup>2</sup>*Stanford University, Stanford, CA*

## THURSDAY POSTERS

**PROTEINS: MEMBRANE, 508 - 532**

- ThP 508 **Development and Application of X-Ray Footprinting (XF) for Structural Studies of Integral Membrane Proteins;** Sayan Gupta; Mark Chance; *Case Western Reserve Univ, Upton, NY*
- ThP 509 **Dissecting the Platelet Proteome by Mass Spectrometric Approaches for Subcellular Protein Inventories Including Analysis of Phosphorylations and Glycosylations;** Urs Lewandrowski<sup>1</sup>; René P. Zahedi<sup>1</sup>; Stefanie Wortelkamp<sup>1</sup>; Katharina Lohrig<sup>2</sup>; Albert Sickmann<sup>1</sup>; <sup>1</sup>*Institute for Analytical Sciences, Dortmund, Germany*; <sup>2</sup>*Ruhr-University-Bochum, Bochum, Germany*
- ThP 510 **Topological Study of Membrane Proteins by Fenton Oxidation and Mass Spectrometry;** Hye Kyong Kweon; Xuequn Chen; Philip Andrews; *The University of Michigan, Ann Arbor, MI*
- ThP 511 **Cysteine Chemical Cleavage-Assisted Tryptic Digestion for Membrane Proteomics;** Mio Iwasaki<sup>1,2</sup>; Takeshi Masuda<sup>2</sup>; Masaru Tomita<sup>1,2</sup>; Yasushi Ishihama<sup>2,3</sup>; <sup>1</sup>*Keio University, Fujisawa, Japan*; <sup>2</sup>*Institute for Advanced Biosciences Keio University, Tsuruoka, Japan*; <sup>3</sup>*Presto, Japan Science and Technology Agency, Tokyo, Japan*
- ThP 512 **Diagnostic Cell Surface Protein Barcodes of Blood Cancers;** Andreas J Hofmann<sup>1</sup>; Bertran Gerrits<sup>2</sup>; Silvia Behnke<sup>3</sup>; Alexander Schmidt<sup>1</sup>; Thomas Bock<sup>1</sup>; Damaris Bausch-Fluck<sup>1</sup>; Ruedi Aebersold<sup>1</sup>; Holger Moch<sup>3</sup>; Marianne Tinguely<sup>3</sup>; Bernd Wollscheid<sup>1</sup>; <sup>1</sup>*Swiss Federal Institute of Technology, Zurich, Switzerland*; <sup>2</sup>*Functional Genomics Center Zurich, Zurich, Switzerland*; <sup>3</sup>*University Hospital Zurich, Zurich, Switzerland*
- ThP 513 **Isolation and Characterization of the Human Sigma-1 Receptor Using Novel Affinity Ligand Purification and Mass Spectrometry;** Hongbo Gu; Carthene R. Bazemore-Walker; *Brown University, Providence, RI*
- ThP 514 **Quantitative MS-Based Proteomics Strategy to Decipher Both Stable and Transient Interactors of Membrane Proteins in Yeast Peroxisomes;** Silke Oeljeklaus<sup>1</sup>; Benedikt S. Reinartz<sup>1</sup>; Michael Kohl<sup>1</sup>; Christian Stephan<sup>1</sup>; Ralf Erdmann<sup>2</sup>; Helmut E. Meyer<sup>1</sup>; Bettina Warscheid<sup>1</sup>; <sup>1</sup>*Medizinisches Proteom-Center, Bochum, Germany*; <sup>2</sup>*Department for Systems Biochemistry, Bochum, Germany*
- ThP 515 **Comprehensive Proteomic Analysis of Yersinia Pestis Membrane Proteins;** Moo-Jin Suh<sup>1</sup>; Rembert Pieper<sup>1</sup>; Shih-Ting Hung<sup>1</sup>; David J. Clark<sup>1</sup>; Jeffrey M. Robinson<sup>1</sup>; Hamid Alami<sup>1</sup>; Prashanth P. Parmar<sup>1</sup>; Srilatha Kuntumalla<sup>1</sup>; Christine L. Bunai<sup>1</sup>; Robert D. Perry<sup>2</sup>; Robert D. Fleischmann<sup>1</sup>; Scott N. Peterson<sup>1</sup>; <sup>1</sup>*J Craig Venter Institute, Rockville, MD*; <sup>2</sup>*Department of Microbiology, University of Kentucky, Lexington, KY*
- ThP 516 **Quantitative Proteomics Analysis of Cell Surface Caveolae in Mammary Epithelial Tumor Cells;** Yu Zi Zheng; Ivan R. Nabi; Leonard J. Foster; *Univeristy of British Columbia, Vancouver, Canada*
- ThP 517 **Analysis of the Membranome of Breast Cancer Cell Lines by Comparative Shotgun Proteomics Identifies Tumor Associated Antigens;** Lori C Stansberry; Eberhard Durr; Mark A Miller; Joseph G. Joyce; Loren D. Schultz; *Merck and Co., West Point, PA*
- ThP 518 **The Membrane Topology and the Dynamics of Melittin within the Liposomes;** Kazumi Saikusa; Yo Kono; Shunsuke Izumi; *Graduate School of Science, Hiroshima University, Higashihiroshima, Japan*
- ThP 519 **Determination of Membrane Protein Topology Expressed in a Wheat Germ Cell-Free Expression System Using Proteolysis Reactions and Mass Spectrometry;** Mark Scalf; Michael A. Goren; Mathew R. Lockett; Brian G. Fox; Lloyd M. Smith; *University of Wisconsin, Madison, WI*
- ThP 520 **A Structural Investigation into the CB2 Receptor Using Covalent Ligands;** Dennis Szymanski<sup>1</sup>; Malvina Papanastasiou<sup>2</sup>; Alexander Makriyannis<sup>1</sup>; <sup>1</sup>*Center for Drug Discovery, Boston, MA*; <sup>2</sup>*Northeastern University, Boston, MA*
- ThP 521 **Proteomics Analysis of Mitotic Golgi Disassembly and Reassembly Using a Reconstitution System;** Xuequn Chen<sup>1</sup>; Eric Simon<sup>2</sup>; Maureen Kachman<sup>2</sup>; Yanzhuang Wang<sup>1</sup>; Philip Andrews<sup>2</sup>; <sup>1</sup>*The University of Michigan, Ann Arbor, MI*; <sup>2</sup>*University of Michigan, Ann Arbor, MI*
- ThP 522 **Observation of Processed Proteins by ID Gel LC-MS/MS and Scaffold Data Visualization Software;** Randy J. Arnold; Rohini R. Kohli; Richard W. Hardy; *Indiana University, Bloomington, IN*
- ThP 523 **Investigation of Protein Interactions of Gamma-Glutamyl Carboxylase and Vitamin K-Dependent Substrates Using Covalent Crosslinking and Mass Spectrometry;** Christine Hebling; James Jorgenson; *University of North Carolina, Chapel Hill, NC*
- ThP 524 **Efficiency Comparison of Magnetic and Conventional Protein A/G Beads for Membrane Protein Immunoprecipitation for MS Analysis;** Hui Jiang; Alexis Ramos; Xudong Yao; *Department of Chemistry, University of Connecticut, Storrs, CT*
- ThP 525 **Approaching the Complexity of Membrane Proteomes Digested with Elastase Using IEF/nLC-MALDI-MS/MS;** Benjamin Rietschel<sup>1</sup>; Tabiwan N. Arrey<sup>1</sup>; Bjoern Meyer<sup>1</sup>; Sandra Bornemann<sup>1</sup>; Dimitrios Papasotiriou<sup>1</sup>; Ansgar Poetsch<sup>2</sup>; Michael Karas<sup>1</sup>; <sup>1</sup>*University Frankfurt, Frankfurt, Germany*; <sup>2</sup>*University Bochum, Bochum, Germany*
- ThP 526 **In-Gel Digestion of Mouse Membrane Protein Extract: 85% Increase in Peptide Recovery and Identification of Very Low Abundance Hydrophobic Proteins;** Chris Adams<sup>1</sup>; Allis S. Chien<sup>1</sup>; Daniel J. Simpson<sup>2</sup>; Bill Dailey<sup>2</sup>; Sergei Saveliev<sup>2</sup>; <sup>1</sup>*Stanford University, Stanford, CA*; <sup>2</sup>*Promega Corp., Madison, WI*
- ThP 527 **Development of LC and LC-MS/MS Methods for the Analysis of p14 Fusion-Associated Small Transmembrane Protein;** Reno Nguyen<sup>1</sup>; Wendy Luo<sup>1</sup>; Roberto de Antueno<sup>2</sup>; Roy Duncan<sup>2</sup>; <sup>1</sup>*Grace Davison Discovery Scie, Deerfield, IL*; <sup>2</sup>*Dalhousie University, Nova Scotia, Canada*
- ThP 528 **Sequential Gel-Assisted Digestion for Concomitant Analysis of Phosphorylated and Glycosylated Membrane Proteome;** Chih-Wei Chien<sup>1</sup>; Chia-li Han<sup>2</sup>; Chia-feng Tsai<sup>2</sup>; Yi Ting Wang<sup>2</sup>; Yu-ju Chen<sup>2</sup>; <sup>1</sup>*Dep. of Chemistry National Tsing Hua University, Hsinchu, Taiwan*; <sup>2</sup>*Institute of Chemistry, Academia Sinica, Taipei, Taiwan*
- ThP 529 **Determination of GTPase Expression in Membrane and Cytosolic Fractions after Bisphosphonate Treatment;** Marjo Jauhainen<sup>1,3</sup>; Seppo Auriola<sup>1</sup>; Hannu Mönkkönen<sup>1,2</sup>; Michel Boutin<sup>3</sup>; Jukka Mönkkönen<sup>1</sup>; Pierre Thibault<sup>3</sup>; <sup>1</sup>*University of Kuopio, Kuopio, Finland*; <sup>2</sup>*INSERM, Université Claude Bernard*

## THURSDAY POSTERS

- Lyon, Lyon, France; <sup>3</sup>Université de Montréal, Montreal, Canada
- ThP 530 **Isolation and Mass Spectrometric Analysis of Integral Membrane Proteins and their Interacting Partners;** Kwangwon Lee; Anne M. Distler; Micelle Jennings; Janos Kerner; Charles Hoppel; *Case Western Reserve Univ., Cleveland, OH*
- ThP 531 **Mass Spectrometric Analysis of the GPCR AIDS Virus Co-receptor, CXCR4;** Ting Liu; Joyce Brewer; Royce Wilkinson; John Mills; Martin Teintze; Edward Dratz; *Montana State University, Bozeman, MT*
- ThP 532 **The Composition of Integrin Beta 1 Complexes Investigated by Formaldehyde Cross-Linking and Mass Spectrometry;** Cordula Klockenbusch; Juergen Kast; *University of British Columbia, Vancouver, Canada*

<b>PROTEINS: RECOMBINANT, 533 - 551</b>
---

- ThP 533 **Methods for Rapid Characterization of O-Linked Glycosylation in a Yeast Derived Recombinant GM-CSF Protein;** Melissa Zolodz; Halyna E. Narepekha; Justin Sperry; James Carroll; Ned M. Mozier; *Pfizer, Chesterfield, MO*
- ThP 534 **An Alternative Approach for Characterization of Impurities and Site-specific Modifications in Protein Drugs;** Hongwei Xie; Martin Gilar; John C. Gebler; *Waters Corporation, Milford, MA*
- ThP 535 **Identification and Quantification of Post-Translational Modifications of Monoclonal Antibodies by Top-Down HPLC/MS;** Pavel V. Bondarenko; Gang Xiao; Jason L. Richardson; Thomas M. Dillon; Da Ren; Zhongqi Zhang; *Amgen Inc., Thousand Oaks, CA*
- ThP 536 **Emerging Role of Top Down LC/MS Analysis in Biopharmaceutical Characterization and Release Testing;** Himanshu Gadgil; David Hambly; Da Ren; Michael J Treuheit; Bruce Kerwin; *Amgen Inc., Seattle, WA*
- ThP 537 **Application of Analytical Methods to Characterize Protein Aggregation for a Biopharmaceutical Drug Program;** Jennifer F. Nemeth; Michael Brigham-Burke; Audrey Baker; Eilyn Lacy; Cathy Gress; Angela Interrante; Yun Seung Kyung; Justin Sprenkle; *Centocor R&D, Radnor, PA*
- ThP 538 **Characterizing Five Deamidation Products from a Single Asparagine Residue in Recombinant mAb's Through LC-MS Peptide Mapping;** Adam W. Lucka; Rekha Patel; Christine Nowak; Bruce Andrien; *Alexion Pharmaceuticals, Cheshire, CT*
- ThP 539 **Novel Methodology for Determination of the Complete Connectivity of IgG2 Disulfide Variants;** Bing Zhang; Adam G. Harder; Heather M. Connelly; Steven L. Cockrill; *Amgen Inc., Longmont, CO*
- ThP 540 **Novel LC-MS and Gel LC-MS Platforms with Electron Transfer Dissociation for the Characterization of Therapeutic Monoclonal Antibodies;** Yi Wang; Cheryl Lu; Shiao-lin Wu; William S. Hancock; *Northeastern University, Boston, MA*
- ThP 541 **Quantitation of Glycoforms in Recombinant IgG Antibody by LC/MS;** Carola WN Damen<sup>2</sup>; Jeff Mazzeo<sup>1</sup>; Asish Chakraborty<sup>1</sup>; Weibin Chen<sup>1</sup>; <sup>1</sup>*Waters Corporation, Milford, MA*; <sup>2</sup>*Dept. of Pharmacy, The Netherlands Cancer Inst, Amsterdam, The Netherlands*
- ThP 542 **2D SEC – RP LC/MS for the Analysis of Difficult Recombinant Protein Samples;** Wendy L. White; Jon D. Williams; *GlaxoSmithKline, Rtp, NC*

- ThP 543 **Top-Down High Resolution Tandem Mass Spectrometry for Characterization of Conserved Automethylation in Coactivator Associated Arginine Methyltransferase 1;** Peter Kuhn; Qingge Xu; Erika Cline; Di Zhang; Ying Ge; Wei Xu; *University of Wisconsin-Madison, Madison, WI*
- ThP 544 **Straight Protein QC by Benchtop MALDI-TOF Top-Down Sequencing;** Darwin Asa<sup>1</sup>; Anja Resemann<sup>2</sup>; Detlev Suckau<sup>2</sup>; Arndt Asperger<sup>2</sup>; <sup>1</sup>*Bruker Daltonics Inc, Billerica, MA*; <sup>2</sup>*Bruker Daltonik GmbH, Bremen, Germany*
- ThP 545 **Enhanced Utility of the Advion Triversa Ion Source for Protein Characterization in the Biopharmaceutical Industry;** Steven C. Pomerantz<sup>1</sup>; Jennifer F. Nemeth<sup>2</sup>; <sup>1</sup>*Centocor Research and Development, Radnor, PA*; <sup>2</sup>*Centocor R&D, Radnor, PA*
- ThP 546 **Isolation and Characterization of GST-Fusion Proteins by GSH-Bound Gold Nanodots for MALDI MS Analysis;** Cheng-Tai Chen<sup>1</sup>; Chao-Zong Liu<sup>2</sup>; Yu-Chie Chen<sup>1</sup>; <sup>1</sup>*National Chiao Tung University, Hsinchu, Taiwan*; <sup>2</sup>*Tzu Chi University, Hualien, Taiwan*
- ThP 547 **Mass Spectrometric Analysis of Proteolytic Products from MBP-Containing Heterologous Proteins Expressed in *Pichia pastoris*;** Zhiguo Li<sup>1</sup>; Wilson Leung<sup>1</sup>; Joan Lin-Cereghino<sup>1</sup>; Geoffrey Lin-Cereghino<sup>1</sup>; Fan Xiang<sup>2</sup>; Andreas Franz<sup>1</sup>; <sup>1</sup>*University of the Pacific, Stockton, CA*; <sup>2</sup>*Shimadzu Biotech, Pleasanton, CA*
- ThP 548 **ESI-MS Characterization of a Novel Immunoconjugate: THIOMAB-Drug Conjugate (TDC);** Galahad U. Deperalta; Lee Chien; Victor Ling; *Genentech, Inc., S. San Francisco, CA*
- ThP 549 **The Comparison of a Therapeutic Complex Glycoprotein (TNK-tPA) from Both Innovator and Biosimilar Manufacturing Processes Using Mass Spectrometry;** Haitao Jiang; Shiao-lin Wu; William S. Hancock; *Northeastern University, Boston, MA*
- ThP 550 **Glycosylation Analysis of IL23r Using Mass Spectrometry: Elucidation of Glycosylation Sites and Characterization of Attached Glycan Structures;** Jia Zhao; Yan-hui Liu; Paul Reichert; Birendra Pramanik; *Schering Plough Research Institute, Kenilworth, NJ*
- ThP 551 **ER Stress-Induced Binding of Group VIA PLA2 (iPLA2 $\beta$ ) to Calnexin Identified by Mass Spectrometric Characterization of the iPLA2 $\beta$  Interactome;** Haowei Song<sup>1</sup>; Henry W. Rohrs<sup>2</sup>; Jack Ladenson<sup>1</sup>; John Turk<sup>1</sup>; <sup>1</sup>*Washington University School of Medicine, St. Louis, MO*; <sup>2</sup>*Washington University Chemistry Department, St. Louis, MO*

<b>PROTEINS: MODIFIED, 552 - 578</b>
--------------------------------------

- ThP 552 **Characterization of a Novel Amine Derivatization to Investigate the Structural Properties of Proteins by Mass Spectrometry;** Lake N. Paul; Kenneth B. Tomer; *NIH, Raleigh, NC*
- ThP 553 **Lysine-Methylation: Mass Spectrometric Approaches for the Identification of Modified Proteins;** Rosalind Yc Tan; Manfred R. Raida; Choon-Keow Ng; Bernard PM Tham; *Experimental Therapeutics Ce, Singapore, Singapore*
- ThP 554 **Mapping Iodination Sites of Whole Proteins by MALDI-MS and Gas Phase Photodissociation;** Qingyu Sun; Ryan R. Julian; *University of California, Riverside, CA*

## THURSDAY POSTERS

- ThP 555 **14 and 28 Da Mass Shifts Detected by MALDI-MS as Evidence and Discrimination for Artifactual Methylations of Aspartate and Glutamate;** Guoqiang Chen; Zhili Li; *Institute of Basic Medical Sciences, CAMS & PUMC, Beijing, China*
- ThP 556 **Enhanced Peptide Peak Intensity with the use of Cysteine Modifiers and MALDI-TOF/TOF for Improvement of Protein Identification;** Masoud Zabet Moghaddam; Satomi Niwayama; *Texas Tech University, Lubbock, TX*
- ThP 557 **Liquid Chromatography/Mass Spectrometric Analysis of Phosphorylation Site of Organophosphate Treated Chymotrypsin;** Kaisheng Jiao; Catherine F. Yang; *Department of Chem and Biochem, Rowan University, Glassboro, NJ*
- ThP 558 **Impact of Deamidation and Oxidation on Biopharmaceutical Drug Candidate Stability and Activity Using UPLC ESI-TOF Peptide Mapping;** Ying Zhang; Brian Wiggins; Shujun Bai; Lihe Su; Yen-Ming Hsu; Alex Buko; Sharon Gao; *Biogen Idec, San Diego, CA*
- ThP 559 **Optimizing the Kinetics of the Indirect Oxidation Pathway for an Electrochemistry-Based Protein Surface Mapping Pipeline;** Paul Abraham; Carlee McClintock; Jerry Parks; Vilmos Kertesz; Robert Hettich; *Oak Ridge National Laboratory, Oak Ridge, TN*
- ThP 560 **Accurate Evaluation of Transcription Factor Acetylation Stoichiometry and Kinetics;** Steven H. Seeholzer; Gerd Blobel; *Children's Hospital of Philadelphia, Philadelphia, PA*
- ThP 561 **Using Mass Spectrometry to Characterize the Novel Disulfide Linkage in the Endonuclease Motif of the *Arabidopsis* CPSF30 Ortholog;** Balasubrahmanyam Addepalli<sup>1</sup>; Arthur G. Hunt<sup>2</sup>; Patrick A. Limbach<sup>1</sup>; <sup>1</sup>University of Cincinnati, Cincinnati, OH; <sup>2</sup>University of Kentucky, Lexington, KY
- ThP 562 **A Mass Spectrometric Comparison of the Interactions of Cisplatin and Transplatin with Myoglobin;** Ting Zhao; Fred King; *West Virginia Uni, Morgantown, WV*
- ThP 563 ***In vitro* glycation of glyoxalase II by methylglyoxal Characterization of the glycation sites of by LC/MS/MS;** Jean Pierre Le Caer; Olivier Laprevote; Naima Nhiri; Eric Jacquet; Jean-Yves Lallemand; *CNRS Institut de Chimie des Substances Naturelles, Gif sur Yvette, France*
- ThP 564 **Role of Hemoglobin Oxidation in the Formation of the Red Blood Cell Storage Lesion;** Grady Blacken; Yi Wang; Ryan Gallagher; Xiaoyun Fu; *Puget Sound Blood Center, Seattle, WA*
- ThP 565 **Identification of Candidate Plasma Biomarkers for Diabetic Complications: *In vivo* Methylglyoxal Modified Hotspots;** Mike Kimzey<sup>2</sup>; Michael A Galligan<sup>2</sup>; Hussein Yassine<sup>2</sup>; Craig Stump<sup>2</sup>; George Tsapraillis<sup>2</sup>; Serrine S. Lau<sup>1</sup>; <sup>1</sup>Univ of Arizona, Pharmacy, Tucson, AZ; <sup>2</sup>University of Arizona, Tucson, AZ
- ThP 566 **Characterization of the Conjugation Sites in Cleavable Antibody-Maytansinoid Conjugates Using UV Absorbance and Fluorescence Detection Combined with Mass Spectrometry;** Alexandru C. Lazar; Xuan Chen; Godfrey Amphlett; Rajesh Krishnamurthy; *ImmunoGen, Inc., Waltham, MA*
- ThP 567 **Elucidation of PEGylation Site with a Combined Approach of In-Source Fragmentation and CID MS/MS;** Xiaojuan Lu; P. Clayton Gough; Michael R. DeFelippis; Lihua Huang; *Eli Lilly and Company, Indianapolis, IN*
- ThP 568 **Probing the Structure of the Gram-Positive Ribosome with Chemical Labeling;** Matthew A. Lauber; William E. Running; James P. Reilly; *Indiana University, Bloomington, IN*
- ThP 569 **Top-down and Bottom-up Analysis of Nitrated Proteins by ECD, CID and IRMPD Mass Spectrometry;** Victor A. Mikhailov<sup>1</sup>; Andrew W. Jones<sup>1</sup>; Jesus Iniesta<sup>2</sup>; Helen Cooper<sup>1</sup>; <sup>1</sup>University of Birmingham, Birmingham, UK; <sup>2</sup>University of Alicante, Alicante, SPAIN
- ThP 570 **Verification of Selenomethionine Incorporation by Top-Down and Bottom-Up Mass Spectrometry;** Xu Wang<sup>1,2</sup>; Jeremiah Tipton<sup>2</sup>; Mark R. Emmett<sup>2</sup>; Alan G. Marshall<sup>1,2</sup>; <sup>1</sup>Florida State University, Tallahassee, FL; <sup>2</sup>Natl High Magnetic Field Lab, Tallahassee, FL
- ThP 571 **Development of a Microfluidic Quench-Flow Interface Compatible with ESI-FT-ICR MS for the Characterization of Enzyme Mechanisms;** David J Clarke; Adam A. Stokes; Pat Langridge-smith; C. Logan Mackay; *SIRCAMS, Dept. Chemistry, University of Edinburgh, Edinburgh, U.K.*
- ThP 572 **Characterization of PEGylated-Peptides and Site Localization of Attachment with High Resolution ETD Mass Spectrometry;** Andrew Carr<sup>1</sup>; Tonya Second<sup>2</sup>; Robert Cummins<sup>1</sup>; Rosa Viner<sup>3</sup>; Lihua Huang<sup>1</sup>; <sup>1</sup>Eli Lilly and Company, Indianapolis, IN; <sup>2</sup>Thermo Fisher Scientific, San Jose, CA; <sup>3</sup>ThermoFisher Scientific, San Jose, CA
- ThP 573 **Redox-Regulation of p53: Identification of Redox Modifications Using Top Down FT-ICR Mass Spectrometry;** Jenna Scotcher<sup>1</sup>; David J Clarke<sup>1</sup>; Penka Nikolova<sup>2</sup>; Ted Hupp<sup>3</sup>; Peter Sadler<sup>4</sup>; Pat Langridge-Smith<sup>1</sup>; C. Logan Mackay<sup>1</sup>; <sup>1</sup>SIRCAMS, Dept. Chemistry, University of Edinburgh, Edinburgh, UK; <sup>2</sup>Dept. Biochemistry, King's College London, London, UK; <sup>3</sup>University of Edinburgh Cancer Center, Edinburgh, UK; <sup>4</sup>Dept. Chemistry, University of Warwick, Coventry, UK
- ThP 574 **Type IV Pilin Profiling Reveals a Crucial Role of Glycerophosphate Modification in the Colonization Properties of *Neisseria Meningitidis*;** Julia Chamorro-rooke<sup>1</sup>; Christian Malosse<sup>1</sup>; Guillaïn Mikaty<sup>2</sup>; Magali Soyer<sup>2</sup>; Patricia martin<sup>2</sup>; Philippe Chafey<sup>3</sup>; Guilhem Clary<sup>3</sup>; Luc Camoin<sup>3</sup>; Xavier Nassif<sup>2</sup>; Guillaume Dumenil<sup>2</sup>; <sup>1</sup>CNRS UMR7651 - Ecole Polytechnique, Palaiseau, France; <sup>2</sup>INSERM U570 - Faculté de médecine Necker, Paris, France; <sup>3</sup>INSERM - Institut Cochin, Paris, France
- ThP 575 **FT-ICR MS Identification of Non-Pathologic Oxidative Modifications on Creatine Kinase in Alzheimer's and in Control Brains;** Shannon M. Eliuk; Matthew B. Renfrow; Stephen Barnes; Helen Kim; *University of Alabama at Birmingham, Birmingham, AL*
- ThP 576 **Probing Critical Quality Attributes of an IgG2 mAb via Characterization of Forced Degradation Samples;** Xin Zhang; Liping Chu; Hung Tran; Andrew Goetze; Jette Wypych; *Amgen, Thousand Oaks, CA*
- ThP 577 **Characterization of S-thiolation on Secreted Proteins from *E. Coli* by Mass Spectrometry;** Peiran Liu<sup>2</sup>; Mallorie Tarnowski<sup>1</sup>; Brian Omara<sup>2</sup>; Wei Wu<sup>2</sup>; Haiying Zhang<sup>2</sup>; James Tamura<sup>2</sup>; Michael Ackerman<sup>2</sup>;

## THURSDAY POSTERS

- Li Tao<sup>2</sup>; Reb Russell<sup>2</sup>; <sup>1</sup>University of Michigan, Ann Arbor, MI; <sup>2</sup>Bristol-Myers Squibb, Pennington, NJ
- ThP 578 **Identification and Characterization of Deamidation Sites of Human Growth Hormone; Weidong Cui<sup>1</sup>**; Chunxiang Yao<sup>1</sup>; Tzu-yung Lin<sup>1</sup>; Cheng Lin<sup>1</sup>; Peter B. O'Connor<sup>2</sup>; <sup>1</sup>Boston University School of Medicine, Boston, MA; <sup>2</sup>University of Warwick, Coventry, UK

## TOXICOLOGY, 579 - 602

- ThP 579 **GC-MS/MS Support in the Evaluation of the Toxicokinetics of VX Following Intravenous and Percutaneous Exposures in Minipigs; Jeffrey M. McGuire**; Stanley W. Hulet; E. Michael Jakubowski, Jr; Sandra A. Thomson; *US Army ECBC, Apg, MD*
- ThP 580 **Quantification of Benzocaine in Rat Plasma Using UPLC-ES/MS/MS; Kellie Woodling<sup>1</sup>**; Tong Zhou<sup>2</sup>; Linda VonTungeln<sup>1</sup>; Frederick Beland<sup>1</sup>; Kevin Greenlees<sup>2</sup>; Daniel R. Doerge<sup>1</sup>; <sup>1</sup>Nat. Ctr. Tox. Res., Jefferson, AR; <sup>2</sup>FDA/Center for Veterinary Medicine, Rockville, MD
- ThP 581 **Serum Metabolome and Frontal Cortex Proteome Alterations in C57Bl/6 Mice Persist Past Withdrawal of Chronic Tobacco Smoke Exposure; Rachel Neal**; Sadiatu Musah; Robert M. Greene; M Michele Pisano; *University of Louisville, Louisville, KY*
- ThP 582 **Quantitative LC/MS Screening for Illicit Drugs in Biological Matrices Using Ultrahigh Resolution Mass Analysis and Accurate Mass Confirmation; Kevin J. Mchale<sup>1</sup>**; Mark Sanders<sup>2</sup>; <sup>1</sup>Thermo Fisher, Somerset, NJ; <sup>2</sup>Thermo Fisher Scientific, Somerset, NJ
- ThP 583 **A Quick LC/MS/MS Method for the Analysis of Common Benzodiazepines and Opiates; Tania A. Sasaki<sup>1</sup>**; Sumandeep Rana<sup>2</sup>; Wayne B. Ross<sup>2</sup>; <sup>1</sup>Applied Biosystems, Foster City, CA; <sup>2</sup>Redwood Toxicology, Santa Rosa, CA
- ThP 584 **Metabonomic Profiling of D-Serine-Induced Toxicity Biomarkers in Rat Urine; Rhonda L. Pitsch<sup>1,3</sup>**; Claude Grigsby<sup>1</sup>; Nicholas DelRaso<sup>1</sup>; Louis Tamburino<sup>2</sup>; Mateen Rizki<sup>2</sup>; John Schlager<sup>1</sup>; Pavel Shiyonov<sup>1,3</sup>; <sup>1</sup>711th Human Performance Wing, WPAFB, OH; <sup>2</sup>Wright State University, Dayton, OH; <sup>3</sup>Henry M. Jackson Foundation, Wright-Patterson AFB, OH
- ThP 585 **Determination of VX Sequestered Within Göttingen® Minipig Skin Following Percutaneous Exposure Using LC-MS-MS and GC-MS-MS; Jeffrey M. McGuire**; Stanley Hulet; E. Michael Jakubowski, Jr; Sandra Thomson; *Christopher Byers*; *US Army ECBC, Apg, MD*
- ThP 586 **Performance Evaluation of Three LC-MS Methods Implemented on Ion Trap Mass Spectrometer for Drug Testing in Urine; Guifeng Jiang**; Marta Kozak; Subodh Nimkar; *Thermo Fisher Scientific, San Jose, CA*
- ThP 587 **Chemoproteomic Investigation of the Idiosyncratically Hepatotoxic Fluoroquinolone Trovafloxacin; Shaun Mcloughlin**; Hua Tang; Paul Richardson; Scott Warder; Jie Lai-Zhang; Michael Liguori; Eric Blomme; *Abbott Laboratories, Abbott Park, IL*
- ThP 588 **Protein profiling Using Tandem Mass Tags to Classify Chemical Allergens in Cell Culture Models; Petra Budde<sup>1</sup>**; Hans-dieter Zucht<sup>1</sup>; Karsten Kuhn<sup>1</sup>; Sasa Koncarevic<sup>1</sup>; Christian Baumann<sup>1</sup>; Stefan Selzer<sup>1</sup>; Lisa Dietz<sup>2</sup>; Stefanie Ohnesorge<sup>2</sup>; Herrmann-Josef Thierse<sup>2</sup>; Peter Schulz-knappe<sup>1</sup>; <sup>1</sup>Proteome Sciences R&D GmbH

- ThP 589 **Quantitative Proteomic Analysis of HepG2 Cells after Ethanol Exposure; Stanley M. Stevens, Jr**; Robert Buzzeo; Patrick C. Bradshaw; *University of South Florida, Tampa, FL*
- ThP 590 **Quantification of Potential DNA Glycation Biomarkers for Diabetes in Biological Samples by LC-MS/MS; Hongxia Wang**; Huachuan Cao; Yinsheng Wang; *University of California, Riverside, CA*
- ThP 591 **LC-MS Detection of 4-ABP-DNA Adduct Formation in Bladder Cells and Tissues; Kristen Randall<sup>1</sup>**; Dayana Argoti<sup>1</sup>; Joseph D. Paonessa<sup>2</sup>; Yi Ding<sup>2</sup>; Zachary Oaks<sup>1</sup>; Yuesheng Zhang<sup>2</sup>; Paul Vouros<sup>1</sup>; <sup>1</sup>Northeastern University, Boston, MA; <sup>2</sup>Roswell Park Cancer Institute, Buffalo, NY
- ThP 592 **Sensitive Determination of Hydroxylated-PAHs in Human Urine by Ultra Performance Liquid Chromatography Coupled to Time-of-Flight Mass Spectrometry; Eric Gaudreau**; Pierre Dumas; Eric Daigle; Nathalie Morissette; *Institut National de Santé Publique du Québec, Québec, Canada*
- ThP 593 **On Line Sample Extraction Technique vs Traditional Sample Preparation Methods for LC-MS Toxicology Screening; Marta Kozak**; Guifeng Jiang; Subodh Nimkar; *Thermo Fisher Scientific, San Jose, CA*
- ThP 594 **Serum Metabolite Profiling in the Search for Biomarkers of Inflammation; Erin G. Prestwich**; Ramesh Babu Indrakanti; Koli Taghizadeh; Peter Dedon; *Massachusetts Inst. of Technology, Cambridge, MA*
- ThP 595 **Hepatotoxicity Biomarkers Found from Coumarin-Treated Rat Liver Tissues Utilizing MALDI TOF and FTMS Imaging Techniques; Lily Li<sup>1</sup>**; Katherine Kellersberger<sup>2</sup>; Paul Kowalski<sup>2</sup>; Jane-Marie Kowalski<sup>2</sup>; Paul Speir<sup>2</sup>; David Ho<sup>1</sup>; Bob Xiong<sup>1</sup>; Patrick Bennett<sup>1</sup>; S Stellar<sup>3</sup>; H.K. Lim<sup>3</sup>; <sup>1</sup>TandemLabs, Woburn, MA; <sup>2</sup>Bruker Daltonics, Billerica, MA; <sup>3</sup>Johnson & Johnson, Raritan, NJ
- ThP 596 **Robust Differentiation of Isobaric Urine Opioids and n-desmethyl metabolites Using LC-Hybrid Tandem Mass Spectrometry (LC-MSMS) and Automated Library Search; Judy Stone<sup>1</sup>**; Deborah French<sup>2,3</sup>; Katherine Chen<sup>2,3</sup>; Alan Wu<sup>2,3</sup>; <sup>1</sup>TPMG Regional Laboratories-Northern California, Richmond, CA; <sup>2</sup>Univ. of Calif. San Francisco, San Francisco, CA; <sup>3</sup>San Francisco General Hospital, San Francisco, CA
- ThP 597 **Determination of Arsenic Species in Urine and Serum Samples from Rats Exposed to Arsenite; Baowei Chen<sup>1</sup>**; Anthony McKnight-Whitford<sup>1</sup>; Lora L. Arnold<sup>2</sup>; Shugo Suzuki<sup>2</sup>; Karen L Pennington<sup>2</sup>; Samuel M. Cohen<sup>2</sup>; X. Chris Le<sup>1</sup>; <sup>1</sup>University of Alberta, Edmonton, Canada; <sup>2</sup>University of Nebraska Medical Center, Omaha, Nebraska
- ThP 598 **Binding of Phenylarsine Oxide to Rat and Human Hemoglobin; Jie Liu**; Chris Le; *University of Alberta, Edmonton, Canada*
- ThP 599 **Multi Target Screening for 700 Drugs Using a QTRAP LC-MS-MS System and Automated Library Searching; Sebastian Dresen**; Nerea Ferreirós Bouzas; Heike Gnann; Wolfgang Weinmann; *Institute of Legal Medicine, Freiburg, Germany*
- ThP 600 **Quantitative Analysis of Bisphenol-A by GC-MS-MS-(NCI) in Biological Liquid Including Urine,**

## THURSDAY POSTERS

- ThP 601 **Blood, Serum/Plasma, Saliva, Milk and Fruit Juice; Pierre Dumas; Éric Daigle; INSPQ, Québec, Canada**  
**Cardiac Toxicity of 2,3,7,8-Tetrachlorodibenzo-p-Dioxin (TCDD) in Juvenile Zebrafish Heart: Profiling Proteomic Changes by Label Free Quantitation Methods; Lingjun Li; Jiang Zhang; Kevin Lanham; Richard Peterson; Warren Heideman; University of Wisconsin, Madison, WI**
- ThP 602 **Development of a LC/MS/MS Method for Determining VX Hydrolysis Product EA-2192 Concentration in Biological Matrices Following Exposure; Stanley Hulet; E. Michael Jakubowski, Jr; Sandra Thomson; Ronald Evans; U.S. Army ECBC, APG-EA, MD**

## ATMOSPHERIC / AEROSOL CHEMISTRY, 603-613

- ThP 603 **Mass Spectrometry's Role in Global Wildfire Emissions Modelling Important to Climate Change; Simin D. Maleknia; The University of New South, Sydney, Australia**
- ThP 604 **Membrane Introduction Tandem Mass Spectrometry (MIMS-MS/MS) as an Mobile On-Line Monitor to Map Air Toxics in the Metropolitan Seattle-Tacoma Airshed; Nicholas G. Davey<sup>3,4</sup>; Jacob M. Etzkorn<sup>3,4</sup>; Ji Hyun Park<sup>1</sup>; Robert S. Crampton<sup>1</sup>; Cole T. E. Fitzpatrick<sup>1</sup>; Timothy V. Larson<sup>1</sup>; Christopher D. Simpson<sup>1</sup>; Michael G. Yost<sup>1,2</sup>; Erik T. Krogh<sup>3,4</sup>; Christopher G. Gill<sup>3,4</sup>; <sup>1</sup>University of Washington, Seattle, WA; <sup>2</sup>PNASH Center, Seattle, WA; <sup>3</sup>Applied Environmental Research Labs. (AERL), Nanaimo, B. C., Canada; <sup>4</sup>Vancouver Island University, Nanaimo, B. C., Canada**
- ThP 605 **Environmental Quality. Mass spectrometry, Olfactometry and Diffusion Modelling to Define Air Quality and Risk Assessment in Landfills; Enrico Davoli<sup>1</sup>; Giancarlo Bianchi<sup>1</sup>; Marinella Palmiotto<sup>1</sup>; Giorgio Celeste<sup>1</sup>; Roberto Fanelli<sup>1</sup>; Elena Fattore<sup>1</sup>; Massimiliano Il Grande<sup>2</sup>; Andrea N. Rossi<sup>2</sup>; <sup>1</sup>Mario Negri Institute, Milano, Italy; <sup>2</sup>Progress S.r.L., Milano, Italy**
- ThP 606 **A Gas-to-Liquid Membrane Interface for Analysis of Volatile Organics in the Gas Phase by Electrospray Ionization Mass Spectrometry; Eric J Lanni; Mark E. Bier; Carnegie Mellon University, Pittsburgh, PA**
- ThP 607 **Real-Time in-situ Multidimensional Characterization of Ultrafine Diesel Tailpipe Particles Using Single Particle Mass Spectrometry; Alla Zelenyuk<sup>1</sup>; Dan Imre<sup>2</sup>; Yong Cai<sup>1,5</sup>; John M. E. Storey<sup>3</sup>; Jian Wang<sup>4</sup>; Gunnar Senum<sup>4</sup>; Shean Huff<sup>3</sup>; Sam Lewis<sup>3</sup>; Dean Edwards<sup>3</sup>; <sup>1</sup>Pacific Northwest National Laboratory, Richland, WA; <sup>2</sup>Imre Consulting, Richland, WA; <sup>3</sup>Oak Ridge National Laboratory, Oak Ridge, TN; <sup>4</sup>Brookhaven National Laboratory, Upton, NY; <sup>5</sup>University of Wyoming, Laramie, WY**
- ThP 608 **Single Particle Mass Analysis for Direct Determination of Particle Fluxes in Micro-Meteorological Experiments; Klaus-Peter Hinz<sup>1</sup>; Elmar Gelhausen<sup>1</sup>; Bernhard Spengler<sup>1</sup>; Andres Schmidt<sup>2</sup>; Otto Klemm<sup>2</sup>; <sup>1</sup>University of Giessen, Giessen, Germany; <sup>2</sup>University of Münster, Münster, Germany**
- ThP 609 **Effects of Particle Composition and Morphology on Laser Desorption Ionization Mass Spectra; Joseph P Klems; Murray V. Johnston; University of Delaware, Newark, DE**

- ThP 610 **Capillary Electrophoresis-Mass Spectrometry: a Useful Tool to Distinguish between Weak and Strong Organic Acids in Atmospheric Fine Particulate Matter; Mahmoud M. Yassine<sup>1</sup>; Ewa Dabek-Zlotorzynska<sup>1</sup>; Philippe Schmitt-Kopplin<sup>2</sup>; <sup>1</sup>Analysis & Air Quality, Environment Canada, Ottawa, ON; <sup>2</sup>Institute of Ecological Chemistry, Neuherberg, Germany**
- ThP 611 **Composition and Yield of Oligomers in Biogenic Secondary Organic Aerosol; Wiley A. Hall; Murray V. Johnston; University of Delaware, Newark, DE**
- ThP 612 **Reactions of Aliphatic Amines with Ammonium Sulfate Clusters; Bryan R. Bzdek; Murray V. Johnston; University of Delaware, Newark, DE**
- ThP 613 **Formation and Decomposition of Negative Atmospheric Ion Water Clusters O<sub>2</sub>-(H<sub>2</sub>O)<sub>n</sub> in Atmospheric Pressure Corona Discharge Mass Spectrometry; Kanako Sekimoto; Mitsuo Takayama; Yokohama City University, Yokohama, Japan**

## INSTRUMENTATION: TOF, 614-629

- ThP 614 **A Robust Bayesian-based Recovery Algorithm for Resolution Enhancement in Time-of-Flight Mass Spectrometry; Robert Jackson; Zhongyu Yang; C. Bronson Crothers; David A. Ferris; Stephen A. Lammert; Stillwater Scientific Instruments, Inc., Orono, ME**
- ThP 615 **Micro Array Ion Guide – A New Way of Ion Introduction into TOF Mass Spectrometer; Boris Kozlov<sup>1</sup>; Andrey Trufanov<sup>1</sup>; Dmitriy Alekseev<sup>1,2</sup>; Mikhail Yavor<sup>1,2</sup>; Anatoli Verentchikov<sup>1</sup>; <sup>1</sup>MS Consulting, Bar, Yugoslavia; <sup>2</sup>Institute For Analytical Instrumentation RAS, St. Petersburg, Russia**
- ThP 616 **A Novel Ion Trap that Enables High Duty Cycle and Wide M/Z-Range on an Orthogonal Injection TOF Mass Spectrometer; Igor Chernushevich; Alexandre Loboda; MDS Analytical Technologies, Concord, ON**
- ThP 617 **A Gridless Ion Deceleration Cell for Improved Sensitivity and Ion Yields in Tandem Photodissociation Time-of-Flight Mass Spectrometry; Kevin Kmiec; Jody May; David H. Russell; Texas A&M University, College Station, TX**
- ThP 618 **MALDI-TOF-TOF with High Resolution Precursor Selection and Multiplexed MS-MS; Kevin Hayden; Stephen C. Gabeler; Mark Dahl; Marvin Vestal; Virgin Instruments Corp., Sudbury, MA**
- ThP 619 **Time-Resolved Vacuum UV Photodissociation of Peptides in ESI Linear Ion Trap/Orthogonal TOF Mass Spectrometer; Tae-young Kim; James P. Reilly; Indiana University, Bloomington, IN**
- ThP 620 **Development of an Electron Transfer Dissociation Capable Ultra High Resolution Orthogonal Quadrupole Time of Flight Mass Spectrometer; Carsten Stoermer<sup>2</sup>; Desmond A. Kaplan<sup>1</sup>; Ralf Hartmer<sup>2</sup>; Markus Lubeck<sup>2</sup>; Oliver Raether<sup>3</sup>; Melvin A. Park<sup>1</sup>; <sup>1</sup>Bruker Daltonics, inc., Billerica, MA; <sup>2</sup>Bruker Daltonik GmbH, Bremen, Germany; <sup>3</sup>Bruker Daltonik, Bremen, Germany**
- ThP 621 **Structural Analysis of Biomolecules Using High-Energy Collision Induced Dissociation in a Multi-Turn Tandem Time-of-Flight Mass Spectrometer "MULTUM-TOF/TOF"; Shuichi Shimma; Ayumi Kubo; Hirofumi Nagao; Michisato Toyoda; Osaka University, Toyonaka, Japan**
- ThP 622 **A Stigmatic Mass Microscope with a High Mass Resolving Power Using a Multi-Turn Time-of-Flight Mass Spectrometer; Hisanao Hazama<sup>1,6</sup>; Jun Aoki<sup>2,6</sup>;**

## THURSDAY POSTERS

- Hirofumi Nagao<sup>1,6</sup>, Ren Suzuki<sup>1,6</sup>, Hidetoshi Yoshimura<sup>1,6</sup>, Yasuhide Naito<sup>3,6</sup>, Michisato Toyoda<sup>2,6</sup>, Katsuyoshi Masuda<sup>4,6</sup>, Kenichi Fujii<sup>5,6</sup>, Toshio Tashima<sup>6</sup>, Kunio Awazu<sup>1,6</sup>, <sup>1</sup>Graduate School of Engineering, Osaka University, Suita, Osaka, Japan; <sup>2</sup>Graduate School of Science, Osaka University, Toyonaka, Osaka, Japan; <sup>3</sup>GPI, Hamamatsu, Shizuoka, Japan; <sup>4</sup>Suntory Institute for Bioorganic Research, Mishima-gun, Osaka, Japan; <sup>5</sup>Osaka Institute of Technology, Hirakata, Osaka, Japan; <sup>6</sup>JST, Crest, Chiyoda-ku, Tokyo, Japan
- ThP 623 **Characterization of Complex Biological Mixtures Using Multi-Reflection TOFMS in Different Mass Resolution Modes;** Matthew Giardina<sup>1</sup>; Viatcheslav Artaev<sup>1</sup>; Mikhail Gavrik<sup>2</sup>; <sup>1</sup>LECO Corporation, St. Joseph, MI; <sup>2</sup>Institute of Analytical Instrumentation, Saint Petersburg, Russian Federation
- ThP 624 **Design, Optimization, and Performance Evaluation of New MALDI-TOF MS and MS-MS Instruments;** Marvin Vestal; *Virgin Instruments Corp., Sudbury, MA*
- ThP 625 **A New Multi-Turn Time-of-Flight Mass Spectrometer with High Resolving Powers Above One Million;** Osamu Furuhashi<sup>1</sup>; Kengo Takeshita<sup>1</sup>; Hideaki Izumi<sup>1</sup>; Shinichi Yamaguchi<sup>1</sup>; Masaru Nishiguchi<sup>1</sup>; Hiroki Sakae<sup>1</sup>; Yoshihiro Ueno<sup>1</sup>; Kiyoshi Ogawa<sup>1</sup>; Yoshikazu Yoshida<sup>1</sup>; Michisato Toyoda<sup>2</sup>; Mitsutoshi Setou<sup>3</sup>; <sup>1</sup>Shimadzu Corporation, Kyoto, Japan; <sup>2</sup>Osaka University, Toyonaka, Osaka, Japan; <sup>3</sup>Hamamatsu University School of Medicine, Hamamatsu, Japan
- ThP 626 **Determination of the Stability Phase Space of Multi-Turn TOF Using for Imaging Mass Spectrometry;** Jun Aoki<sup>1,6</sup>; Hisanao Hazama<sup>2,6</sup>; Michisato Toyoda<sup>1,6</sup>; Kunio Awazu<sup>2,6</sup>; Katsuyoshi Masuda<sup>3,6</sup>; Kenichi Fujii<sup>4,6</sup>; Toshio Tashima<sup>6</sup>; Yasuhide Naito<sup>5,6</sup>; <sup>1</sup>Graduate School of Science, Osaka University, Toyonaka, Osaka, Japan; <sup>2</sup>Graduate School of Engineering, Osaka University, Suita, Osaka, Japan; <sup>3</sup>Suntory Institute for Bioorganic Research, Mishima-gun, Osaka, Japan; <sup>4</sup>Osaka Institute of Technology, Hirakata, Osaka, Japan; <sup>5</sup>GPI, Hamamatsu, Shizuoka, Japan; <sup>6</sup>JST, Crest, Chiyoda-ku, Tokyo, Japan
- ThP 627 **Maximizing Performance Of Conventional Time-of-Flight Technology: Resolution, Accuracy And Speed;** Michael Ugarov; James Bertsch; Bill Barry; John Fjeldsted; *Agilent Technologies, Santa Clara, CA*
- ThP 628 **Improved Resolution and Substantially Higher Sensitivity on a Quadrupole-TOF Mass Spectrometer;** Alexandre Loboda; Igor Chernushevich; Nic Bloomfield; *MDS Analytical Technologies, Concord, ON*
- ThP 629 **A High Performance, Folded Geometry oa-ToF Mass Analyser Incorporating Novel ADC Based Detection;** Jason L Wildgoose; *Waters Corporation, Manchester, UK*
- ThP 631 **Stability of DNA Duplex Containing Hypoxanthine in the Gas Phase Versus Solution Phase;** Xuejun Sun; Jeehiun K. Lee; *Rutgers University, Piscataway, NJ*
- ThP 632 **Gas Phase S<sub>N</sub>2 Reactions of 1,3-Dimethyluracil and Analogs. Insights into the Mechanism of Uracil Removal by the UDG Enzyme;** Anna Zhachkina; Jeehiun K. Lee; *Rutgers University, Piscataway, NJ*
- ThP 633 **Competition between Substitution and Elimination in the Reactions of Dianions with Substituted and Cyclic Alkyl Halides;** Keyanna Conner; Renan Joviliano; Andrew Alexander; Scott Gronert; *Virginia Commonwealth Univ, Richmond, VA*
- ThP 634 **Gas Phase Reactions of Alpha Nucleophiles;** Veronica M. Bierbaum; Stephanie M. Villano; Nicole Eyet; W. Carl Lineberger; *University of Colorado, Boulder, CO*
- ThP 635 **Gas Phase Anion Chemistry Relevant to the Interstellar Medium;** Oscar Martinez Jr.<sup>1</sup>; Brian Eichelberger<sup>1</sup>; Zhibo Yang<sup>1</sup>; Theodore P. Snow<sup>1,2</sup>; Veronica M. Bierbaum<sup>1</sup>; <sup>1</sup>University of Colorado, Boulder, CO; <sup>2</sup>Center for Astrophysics and Space Astronomy, Boulder, CO
- ThP 636 **Charged Carbenes;** Fabiane M Nachtigall<sup>1</sup>; Yuri E Corilo<sup>1</sup>; Patricia Verardi Abdelnur<sup>1</sup>; Marcos N Eberlin<sup>1</sup>; Jairton Dupont<sup>2</sup>; <sup>1</sup>ThOMSON Lab UNICAMP, Campinas, SP, Brazil; <sup>2</sup>Laboratory of Molecular Catalysis, Porto Alegre, RS, Brazil
- ThP 637 **Identification of Aromatic Epoxide Functionalities in Protonated Analytes by Using Ion-molecule Reactions in a Fourier-transform Ion Cyclotron Resonance Mass Spectrometer;** Ryan J Eismin; *Purdue University, West Lafayette, IN*
- ThP 638 **Reactivity Studies of Hydroxy-Substituted Dehydropyridines;** Jennifer Reece<sup>1</sup>; Bartłomiej Jankiewicz<sup>1</sup>; John Nash<sup>2</sup>; Hilkka Kenttamaa<sup>3</sup>; <sup>1</sup>Purdue University, West Lafayette, IN; <sup>2</sup>Department of Chemistry, West Lafayette, IN; <sup>3</sup>Chemistry Department, West Lafayette, IN
- ThP 639 **Gas-Phase Ion-Molecule Reactions for the Differentiation of Primary, Secondary and Tertiary Hydroxyl Functionalities in Unknown Protonated Analytes;** Mingkun Fu<sup>1</sup>; Penggao Duan<sup>2</sup>; Hilkka Kenttamaa<sup>3</sup>; <sup>1</sup>Purdue University, West Lafayette, IN; <sup>2</sup>Bruker Daltonics, Billerica, MA; <sup>3</sup>Chemistry Department, West Lafayette, IN
- ThP 640 **Differentiation of Carbohydrate Phosphates and Sulfates by Gas-Phase Ion-Molecule Reactions;** Matthew Hurt; Yuriy Pyatkivsky; Victor Ryzhov; *Northern Illinois University, DeKalb, IL*
- ThP 641 **Ion-Neutral Complex Mediated Charge-Transfer Reaction: Gas Phase Fragmentation of Phenyl-, benzenesulfonamides;** Nan Hu<sup>1</sup>; Ya-Ping Tu<sup>2</sup>; Yuanjiang Pan<sup>1</sup>; <sup>1</sup>Department of Chemistry, Hangzhou, China; <sup>2</sup>Genelabs Technologies, Redwood City, California
- ThP 642 **Ion-Neutral Complex Resulting from Dissociative Protonation: Fragmentation of  $\alpha$ -Furanylmethyl Benzyl Ether;** Pengyuan Liu; Yuanjiang Pan; *Department of Chemistry, Zhejiang University, Hangzhou, China*
- ThP 643 **Studying the Mechanism of Cysteine S-Nitrosylation by Ion-Molecule Reactions;** Victor Ryzhov<sup>1</sup>; Richard A. J. O'Hair<sup>2</sup>; <sup>1</sup>Northern Illinois University, DeKalb, IL; <sup>2</sup>University of Melbourne, Victoria, Australia
- ThP 644 **In-Situ Selective and Sensitive Detection of Monosaccharides by Reactive Desorption**

**ION MOLECULE, ION ELECTRON, AND ION ION REACTIONS, 630 - 660**

- ThP 630 **Gas-Phase Thermochemical Properties of Damaged Nucleobases and Pyrimidine Nucleobases-Intrinsic Reactivity and Biological Implications;** Min Liu<sup>1</sup>; Meng Xu<sup>1,2</sup>; Tingting Li<sup>1</sup>; Sednam Amegayibor<sup>1</sup>; Daisy Cardoso<sup>1</sup>; Yunlin Fu<sup>1</sup>; Jeehiun Lee<sup>1</sup>; <sup>1</sup>Rutgers, The State University of New Jersey, Piscataway, NJ; <sup>2</sup>Schering-Plough, Piscataway, NJ



## THURSDAY POSTERS

- Electrospray Ionization (ESI) Using Modified Phenylboronic Acids;** Yun Zhang<sup>1</sup>; Caroline Krieger<sup>1</sup>; Dina R. Justes<sup>2</sup>; Feng Feng<sup>1</sup>; Hao Chen<sup>1</sup>; <sup>1</sup>*Ohio University, Athens, OH*; <sup>2</sup>*Purdue University, West Lafayette, IN*
- ThP 645 **Ion/Molecule Reactions of Electrogenerated Ions at Atmospheric Pressure;** Jiwen Li; Zhixin Miao; Hao Chen; *Ohio University, Athens, OH*
- ThP 646 **Structural Fingerprinting of Recombinant Proteins Using Sequential Tandem Mass Spectrometry and Ion/Molecule Chemistry;** Kevin Turney; Paul Schnier; *Amgen, Thousand Oaks, CA*
- ThP 647 **Characterization of PEGs and PEGylated Biotherapeutics by ESI Ion-Mobility Time-of-Flight Mass Spectrometer Coupled with Ion-Molecule Reactions;** Asish Chakraborty; Weibin Chen; John Gebler; *Waters Corporation, Milford, MA*
- ThP 648 **A Mechanistic Study of the H/D Exchange of Phenylalanine-Containing Peptides;** Laura Simpson; Young Lee; Elaine M. Marzluff; *Grinnell College, Grinnell, IA*
- ThP 649 **A Computational Investigation of the Gas Phase Hydrogen/Deuterium Exchange of Aspartic Acid and Arginine Containing Peptides;** Ning-shiuan Lee; Elaine M. Marzluff; *Grinnell College, Grinnell, IA*
- ThP 650 **H/D Exchange and Computational Modeling of Serine-Containing Peptides in the Gas Phase;** Maya Lipert; Elaine M. Marzluff; *Grinnell College, Grinnell, IA*
- ThP 651 **Capabilities of High Resolution Laser Ablation Mass Spectrometry to Study Aluminosilicates Compounds;** Junien Exposito<sup>1,2</sup>; David Ruch<sup>2</sup>; Frédéric Aubriet<sup>1</sup>; <sup>1</sup>*LSMCL Université Paul Verlaine, Metz, France*; <sup>2</sup>*LTI CRP Henri Tudor, Esch/Alzette, Luxembourg*
- ThP 652 **Energetics of the Formation of Metal Sulfide Clusters in Gas Phase Ion-Molecule Reactions: DFT Calculations;** Kaitlin Papson; Jeffrey Spraggins; Una Kim; Nicholas Zeringo; Katherine Mullaugh; George Luther; Douglas P. Ridge; *University of Delaware, Newark, DE*
- ThP 653 **Reactivity Comparison of Pd and Pt Catalysts Liganded by Secondary Oxide Phosphines with Norbornadiene and Terminal Alkynes Using CAR Experiments;** Yves Gimbert<sup>2</sup>; Magda Karanik<sup>1</sup>; Reddy Thota<sup>1</sup>; Claude Charvy<sup>1</sup>; Denis Lesage<sup>1</sup>; Laurent Giordano<sup>3</sup>; Stéphane Humbel<sup>3</sup>; Anne Milet<sup>2</sup>; Gérard Buono<sup>3</sup>; Jean-claude Tabet<sup>1</sup>; <sup>1</sup>*University Paris VI (UPMC), Paris Cedex 05, France*; <sup>2</sup>*LEDSS, Chimie Recherche UMR 5616, Grenoble, France*; <sup>3</sup>*ECM, Faculté St-Jérôme, Marseille, France*
- ThP 654 **Production of Titanium/Oxygen Cluster Ions by Laser Ablation, Investigation of their Reactivity with H<sub>2</sub>O and O<sub>2</sub> – A FTICRMS Study;** Nicolas Barthen; Jean Jacques Gaumet; Frédéric Aubriet; *LSMCL Université Paul Verlaine, Metz, France*
- ThP 655 **Monitoring Gas Phase Ion-Molecule Reactions of Environmentally Significant Metal Clusters with Hydrogen Sulfide Using FT-ICR MS;** Jeffrey Spraggins; Kaitlin Papson; Nicholas Zeringo; Una Kim; Katherine Mullaugh; George Luther; Douglas Ridge; *University of Delaware, Newark, DE*
- ThP 656 **On Performing Simultaneous ETD/CID on Multiply Protonated Peptides in a Linear Ion Trap;** J. Larry Campbell<sup>1</sup>; James Hager<sup>2</sup>; J.c. Yves Leblanc<sup>2</sup>; <sup>1</sup>*MDS Analytical Tech, Sciex, Concord, Canada*; <sup>2</sup>*MDS Analytical Technologies, Concord, ON*
- ThP 657 **Schiff Base Formation in Protonated Peptides via Ion/Ion Reactions in the Gas Phase;** Hongling Han; Anastasia Kharlamova; Scott A. McLuckey; *Purdue University, West Lafayette, IN*
- ThP 658 **Charge Inversion Ion/Ion Reactions of Corticosteroids: Proton Transfer versus Anion Attachment;** Kerry Hassell<sup>1</sup>; J.c. Yves Leblanc<sup>2</sup>; Scott A. McLuckey<sup>1</sup>; <sup>1</sup>*Purdue University, West Lafayette, IN*; <sup>2</sup>*MDS Analytical Technologies, Concord, ON*
- ThP 659 **Computational Evidence for Electron Delocalization in Fixed-Charge Tagged Peptide Dications upon Electron Capture and Transfer;** Thomas W. Chung; Frantisek Turecek; *University of Washington, Seattle, WA*
- ThP 660 **Electron Induced Fragmentation of  $\beta$  Peptides;** Hisham Ben Hamidane<sup>1</sup>; Aleksey Vorobyev<sup>1</sup>; Adrian Schmid<sup>1</sup>; Maud Larregola<sup>2</sup>; Aneta Lukaszuk<sup>2</sup>; Dirk Tourwé<sup>2</sup>; Philippe Karoyan<sup>2</sup>; Yury O. Tsybin<sup>1</sup>; <sup>1</sup>*Ecole Polytechnique Federale, Lausanne, Switzerland*; <sup>2</sup>*Université Pierre et Marie Curie, Paris, France*

<b>HIGH THROUGHPUT ANALYSIS / ROBOTICS, 661 - 696</b>
---

- ThP 661 **Efficiency and Throughput of an HDX- and Mass Spectrometry-Based Assay for Protein-Ligand Binding;** Patrick D. Dearmond; Erin D. Hopper; Graham M. West; Victor Anbalagan; Michael C. Fitzgerald; *Duke University, Durham, NC*
- ThP 662 **Development of a Bioanalytical Platform for Supporting High Throughput *in-vitro* Protein Binding Screening;** Marianne Vath; Kasia Kieltyka; Jennifer Maloney; Jeremy Stewart; John Herbst; Charlie Conway; Harold Weller; Wilson Shou; Jun Zhang; *Bristol Myers Squibb, Wallingford, CT*
- ThP 663 **A highly Automated 5 Pump, 4 Detector Super-Critical Fluid Chromatography Mass Spectrometry (SFC/MS) System for Chiral Purification in Drug Discovery;** Qing Ping Han; Mark J. Hayward; *Lundbeck Research USA, Paramus, NJ*
- ThP 664 **A High Throughput On-line SPE-LC-MS/MS Method for Quantitative Determination of CVT-3619 in Human Urine;** Chungwen Chen; Belinda Wong; Nevena Mollova; Kwan Leung; *CV Therapeutics, Inc., Palo Alto, CA*
- ThP 665 **High-Throughput Analysis of *in vivo* Pharmacokinetic Studies Using Sample Pooling Followed by UPLC-MS/MS;** Jessie Dahlström<sup>1</sup>; Tjerk Bueters<sup>1</sup>; Ingvar Betnér<sup>2</sup>; Sveinn Briem<sup>1</sup>; <sup>1</sup>*Astrazeneca R&D, Södertälje, Sweden*; <sup>2</sup>*Waters, Sollentuna, Sweden*
- ThP 666 **UPLC-MS/MS in High-Throughput Detection, Quantification and Confirmation of Anabolic Steroids in Equine Plasma;** Yowen You<sup>1</sup>; Fuyu Guan<sup>1</sup>; Xiaoqing Li<sup>1</sup>; Cornelius Uboh<sup>1,2</sup>; Lawrence Soma<sup>1</sup>; Jeffrey Rudy<sup>2</sup>; Jinwen Chen<sup>1</sup>; Ying Liu<sup>1</sup>; <sup>1</sup>*University of Pennsylvania, West Chester, PA*; <sup>2</sup>*PA Equine Toxicology, West Chester, PA*
- ThP 667 **Throughput Advantages of Two-Dimensional Chromatography with Multiple Parallel LC Systems Utilizing a Single Data File;** Matthew Berube; *Thermo Fisher Scientific, Franklin, MA*
- ThP 668 **Simple and Rapid Screening of Melamine in Milk Products with High Resolution Accurate Mass Bench Top Orbitrap LCMS;** Kefei Wang; Chunang (christine) Gu; Jie Qian; Ze Zhang; James chang; *ThermoFisher Scientific, San Jose, CA*

## THURSDAY POSTERS

- ThP 669 **Label Free High-Throughput Whole Protein Kinase Screening Assay;** Michelle V. Romm<sup>1</sup>; Nikunj Parikh<sup>1</sup>; Thomas B. Stanley<sup>2</sup>; Jon D. Williams<sup>2</sup>; William A. Lamarr<sup>1</sup>; Can "jon" Ozbal<sup>1</sup>; <sup>1</sup>BioTrove, Inc., Woburn, MA; <sup>2</sup>GlaxoSmithKline, Research Triangle Park, North Carolina
- ThP 670 **High Throughput Quantitative Sample Analysis Using an Integrated Multiplex LC-MS System Combined with On-Line SPE;** Min J. Yang; David M. Cox; Adrian Taylor; Peter Kovarik; John Gibbons; *MDS Analytical Technologies, Concord, Canada*
- ThP 671 **A High Throughput 10-in-1 LC/MS/MS Method to Support CYP Inhibition Studies Using Human Liver Microsomes;** Dandan Wang; Jianrong Lin; Diansong Zhou; Connie Azumaya; Scott Grimm; *AstraZeneca Pharmaceuticals LP, Wilmington, DE*
- ThP 672 **Automated Peptide Mapping: Digestion, LC-MS, and Data Analysis;** Jason L. Richardson; Bhavana Shah; Pavel V. Bondarenko; Gang Xiao; Zhongqi Zhang; *Amgen, Inc., Thousand Oaks, CA*
- ThP 673 **A High Speed High Resolution Open Access Multi Column LCMS System for Diverse Application Needs;** Oliver Keil<sup>1</sup>; Michael Frank<sup>2</sup>; Angelika Gratzfeld-Huesgen<sup>2</sup>; <sup>1</sup>Graffinity Pharmaceuticals, Heidelberg, Germany; <sup>2</sup>Agilent Technologies, Waldbronn, Germany
- ThP 674 **High Throughput Screening of Deoxynivalenol by MALDI-TOF Mass Spectrometry;** Chang-nan Chen<sup>1</sup>; Mei-wun Lin<sup>1</sup>; Jentaie Shiea<sup>2</sup>; <sup>1</sup>Chaoyang University of Technology, Taichung, Taiwan; <sup>2</sup>National Sun Yeh-sen University, Kaohsiung, Taiwan
- ThP 675 **Improvements in Mass-Directed Preparative HPLC Fractionation to Support Late Stage Lead Optimization;** Yinong Zhang; Rongda Xu; Catherine Pham; Lu Zeng; Daniel B. Kassel; *Takeda San Diego, Inc., San Diego, CA*
- ThP 676 **Maximizing Versatility of an Automated Mass Directed Preparative HPLC for Multiple Uses and Diverse Loading Scales;** Leonard Hargiss<sup>1</sup>; Philip E. Keyes<sup>1</sup>; Julita Cicogna<sup>2</sup>; Timothy Stanoch<sup>4</sup>; Trevor Cornell<sup>3</sup>; <sup>1</sup>Lexicon Pharmaceuticals, Princeton, NJ; <sup>2</sup>Taylor Technologies, Princeton, NJ; <sup>3</sup>The College of New Jersey, Ewing, NJ; <sup>4</sup>Stevens Institute of Technology, Hoboken, NJ
- ThP 677 **Discovery of Novel Inhibitors of Serine Palmitoyltransferase (SPT) by Mass Spectrometry-Based High-Throughput Screening (HTS);** Pete Meyn<sup>1</sup>; Paul Maresca<sup>1</sup>; William A. Lamarr<sup>2</sup>; Peter Rye<sup>2</sup>; Maureen Brooks<sup>1</sup>; Adam Babbs<sup>3</sup>; Martin Procter<sup>3</sup>; David Pan<sup>3</sup>; Can "Jon" Ozbal<sup>2</sup>; Andrew Garton<sup>1</sup>; <sup>1</sup>OSI Pharmaceuticals, Farmingdale, NY; <sup>2</sup>BioTrove, Inc., Woburn, MA; <sup>3</sup>Prosidian Limited, Oxford, UK
- ThP 678 **Novel Ultra-High-Pressure Splitless Dual Channel Nano-UPLC System for Drastic Increase in Through-Put, Resolution and Sensitivity in Drug and Proteomic Analysis;** Frank Yang<sup>1</sup>; Austin Yang<sup>2</sup>; Frank Wu<sup>1</sup>; Angel Wu<sup>1</sup>; Cathy Chang<sup>1</sup>; <sup>1</sup>CVC Technologies, Inc., Vista, USA; <sup>2</sup>University of Maryland, Greenbaum Cancer Center, Baltimore, Maryland
- ThP 679 **Evaluation of New Version DiscoveryQuant™ Software for Automated MRM Generation and Quantitation for in vitro ADME Screening;** Haiqing Hu<sup>1</sup>; Erika Manyak<sup>1</sup>; Steven Ainley<sup>2</sup>; Kevin Shirey<sup>2</sup>; Michael Rooney<sup>1</sup>; <sup>1</sup>AstraZeneca R&D Boston, Waltham, MA; <sup>2</sup>Sound Analytics, LLC, Niantic, CT
- ThP 680 **Cross Platform MS/MS Method Development, Transfer and Implementation Using DiscoveryQuant Software;** Kevin Whalen; Emily Hudson; Lisa Buchholz; Sarah Osgood; *Pfizer Global R & D, Groton, CT*
- ThP 681 **Co-Polymer Characterization Using Automated On-Line SEC-Pyrolysis GCMS;** Junko Iida<sup>1</sup>; Erwin Kaal<sup>2,3</sup>; Hans-Gerd Janssen<sup>2,4</sup>; <sup>1</sup>Shimadzu Europa GmbH, Duisburg, Germany; <sup>2</sup>van 't Hoff Institute for Molecular Sciences, Amsterdam, The Netherlands; <sup>3</sup>Atas GL International, Veldhoven, The Netherlands; <sup>4</sup>Unilever Research and Development, Vlaardingen, The Netherlands
- ThP 682 **Using Discovery Quant® and Global MS/MS database to facilitate the LC/MS/MS analysis of Discovery In Vitro Protein Binding Assays;** Emily Hudson<sup>1</sup>; Kevin Whalen<sup>2</sup>; Erik A. Soderstrom<sup>3</sup>; Brian Rago<sup>1</sup>; Amanda King-ahmad<sup>1</sup>; John Janiszewski<sup>4</sup>; Lisa Buchholz<sup>5</sup>; <sup>1</sup>Pfizer, Groton, CT; <sup>2</sup>Pfizer Inc, Groton, CT; <sup>3</sup>Pfizer, Inc., Groton, CT; <sup>4</sup>Pfizer Inc., Westbury, RI; <sup>5</sup>Pfizer Global R & D, Groton, CT
- ThP 683 **Fast Analysis of Vitamins in Dietary Supplements Using LCMS;** Masatoshi Takahashi<sup>2</sup>; William A. Hedgepeth<sup>1</sup>; Yuhui Wang<sup>1</sup>; <sup>1</sup>Shimadzu Scientific Instruments, Inc, Columbia, MD; <sup>2</sup>Shimadzu, Columbia, MD
- ThP 684 **High Throughput Nanospray Chip for Robust Molecular ID Using Direct Infusion;** Katherine Heaton; Arthur Fogiel; Lee Heineman; Arthur Fogiel, Jr; Sau Lan Tang Staats; *Phoenix S & T, Inc, Chester, PA*
- ThP 685 **Application of Ultra-Fast LC-MS/MS to High Throughput in vivo PK Screening –Techniques to Minimize Matrix Effects;** Bernard K. Choi; Haiping Wang; Gino M. Salituro; Karen Owens; Lucinda Cohen; *Merck Research Laboratory, Rahway, NJ*
- ThP 686 **Plasma and Brain Homogenate Sample Pooling on a Hamilton Liquid Handling Robotic System;** Joyce Shuman; Bernard Choi; Karen Owens; Gino M. Salituro; Lucinda Cohen; *Merck & Co., Inc., Rahway, NJ*
- ThP 687 **High Throughput Workflow for Midazolam and 1-Hydroxymidazolam Analysis in Human Plasma;** Michael Cover<sup>1</sup>; Patrice Tremblay<sup>2</sup>; Pierre Picard<sup>2</sup>; Lynn Jordan<sup>3</sup>; John Siira<sup>3</sup>; <sup>1</sup>Northern Tier Research, Mayfield, PA; <sup>2</sup>Phytronix Technologies, Quebec, QC; <sup>3</sup>Caliper Life Sciences, Hopkinton, MA
- ThP 688 **A Vortex Cooled Sample Handling and Processing System for Automated H/D Exchange Mass Spectrometry;** Yong Chen; Ansgar Brock; *Novartis-GNF, San Diego, CA*
- ThP 689 **Coupling of a Capillary Scale Immobilized Enzyme Reactor with Bioextraction/Tandem Mass Spectrometry for Identification of Enzyme Inhibitors in Mixtures;** Erica M Forsberg; John D Brennan; *McMaster University, Hamilton, Canada*
- ThP 690 **Validation of Pioglitazone in Human Serum by Two Sample Introduction Methods: LDTD-APCI/MS/MS and LC-ESI/MS/MS;** Michael Pugh; Rachel Sun; John W. Torchia; Donald Gray; Brian Engel; *BASi, West Lafayette, IN*
- ThP 691 **Pushing the Envelope on LC/MS Separation Speed: "Knowing When to Push it and When to Back Off";**

## THURSDAY POSTERS

- Mark J. Hayward; *Lundbeck Research USA, Paramus, NJ*
- ThP 692 **Evaluation of Protein Precipitation Filter Plates for High-Throughput LC-MS Biological Sample Preparation;** Lan Gao; Meng Xu; Swapna Chowdhury; *Schering-Plough, Kenilworth, NJ*
- ThP 693 **Multi-Adsorption Reverse SPE to Clean up Bioanalytical Samples for LC-MS;** Jerry Wang; Jerry Wang; *Agela Technologies Inc, Newark, DE*
- ThP 694 **Urinary Metabolite Profiling Using Solid-Phase Extraction and Direct Infusion Electrospray Ionization Fourier Transform Ion Cyclotron Resonance Mass Spectrometry;** Bo Blanckenburg; Yuri E.M. van der Burgt; André M. Deelder; Magnus Palmblad; *Leiden University Medical Ce, Leiden, Netherlands*
- ThP 695 **Integrated Workflow to Design Methods and Analyze Data in Large-to-Extremely-Large Scale SRM Experiments;** Amol Prakash<sup>1</sup>; Reiko Kiyonami<sup>1</sup>; Alan E. Schoen<sup>2</sup>; Huy Nguyen<sup>2</sup>; Scott Peterman<sup>2</sup>; Andreas F Huhmer<sup>2</sup>; Mary F Lopez<sup>1</sup>; Bruno Domon<sup>3</sup>; <sup>1</sup>*ThermoFisher Scientific, Cambridge, MA*; <sup>2</sup>*Thermo Fisher Scientific, San Jose, CA*; <sup>3</sup>*ETH Zurich, Zurich, Switzerland*
- ThP 696 **Approaching Real-Time Protein Identification from Mass Spectrometry Data;** Joel Coburn<sup>1</sup>; Nuno Bandeira<sup>2</sup>; Pavel Pevzner<sup>1</sup>; Vineet Bafna<sup>1</sup>; Natalie Castellana<sup>1</sup>; Rajesh K. Gupta<sup>1</sup>; Kirby Collins<sup>3</sup>; <sup>1</sup>*University of California, San Diego, La Jolla, CA*; <sup>2</sup>*Center for Computational Mass Spectrometry, UCSD, La Jolla, CA*; <sup>3</sup>*Convey Computers, Richardson, TX*